



United States
Department
of Agriculture

AIS-77

Sept. 25, 2001



Electronic Outlook Report from the Economic Research Service

www.ers.usda.gov

Agricultural Income and Finance Outlook

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U.S. Farm Sector Income Expected Up for 2001

Since ERS' last release of farm income forecasts in early August, new data have become available on expected commodity yields and prices. Field surveys conducted in July and released in the USDA's August and September *World Agricultural Supply and Demand Estimates* (WASDE) provide a more current insight into agricultural conditions around the country.

Current financial forecasts indicate U.S. net cash farm income could reach \$60.8 billion this year, eclipsing 1993's previous record. Crop prices have recovered somewhat from last year and the livestock sector is particularly strong.

Sector wealth continues to increase. New land-value data show farm asset values rising faster than farm debt, resulting in 2001 farm equity up almost \$31 billion from last year.

For commodities, low crop prices have not been enough to offset higher input costs so returns to crops are still down. For livestock, higher market prices are offsetting lower feed prices resulting in improvement in the bottom lines of livestock producers.

Overview

Farm Income Up for 2001

ERS forecasts 2001 net cash farm income at \$60.8 billion, up \$3.3 billion from last year and slightly above 1993's previous record. This cash-based concept measures the total income farmers receive in a given year, regardless of the year in which the marketed output was produced. It indicates the availability of funds to cover cash operating costs, finance capital investments and savings, service debts, maintain living standards, and pay taxes.

Net farm income is forecast at \$49.4 billion, up \$3 billion from last year. This accrual-based concept measures the profit or loss associated with a given year's production. Additions to inventories are treated as income and nonmoney items such as depreciation and the consumption of farm-grown food are included.

Both these forecasts are slightly above the 1990-2000 average ([table 1](#)). Putting these aggregate sector forecasts in context requires an examination of U.S. farms and ranches and how they have changed over the years.

Who Are U.S. Farmers and Ranchers?

Farming today consists of enormously different farms growing numerous crop and livestock products for sale in markets that range from their immediate neighbors to consumers worldwide. Farms differ in size, type and value of commodities produced, technology used, resource endowment, financial status, and many other attributes. Farmers differ in commitments of time, management abilities, business goals, and financial resources. The result is a sector that cannot be accurately characterized by any single measure or characteristic.

A farm or ranch is defined as any establishment that produces, or normally would produce, at least \$1,000 of agricultural products. At 2000 average yields and prices, this would amount to just 4 acres of feed corn or the milk from less than 1 dairy cow, but \$1,000 may also represent the sale of such vastly different products as fresh specialty produce sold at a farmers' market. Using ERS' farm typology classification of farming and ranching operations by value of sales

Table 1--Income statement for U.S. farm sector, 1999-2001F

Item	1999	2000	2001F
\$ billion			
Cash income statement:			
1. Cash receipts	188.1	193.6	205.5
Crops	92.6	94.1	97.0
Livestock	95.5	99.5	108.5
2. Direct Government payments	21.5	22.9	20.0
3. Farm-related income	15.0	13.6	13.8
4. Gross cash income (1+2+3)	224.6	230.1	239.3
5. Cash expenses	168.9	172.6	178.5
6. NET CASH INCOME (4-5)	55.7	57.5	60.8
Farm income statement:			
7. Gross cash income (1+2+3)	224.6	230.1	239.3
8. Nonmoney income	10.9	11.0	11.1
9. Inventory adjustment	-0.2	0.5	0.2
10. Total gross income (7+8+9)	235.3	241.5	250.6
11. Total expenses	191.0	195.1	201.2
12. NET FARM INCOME (10-11)	44.3	46.4	49.4

F = forecast. Numbers may not add due to rounding.

Source: Economic Research Service, USDA

and principal occupation of the farm operator ([see box](#)), over 60 percent of farm operations in 2000 were classified as rural residence farms, with almost 30 percent classified as intermediate farms ([fig. 1](#)).

Educational attainments and farming experience also vary greatly among farmers and by scale of operation. Only 15 percent of farmers responded in surveys that they had less than a high school education in 2000, a number that was little changed from 1978. But the share of farmers with some college increased dramatically between 1976 and 2000, from 16.6 percent to 44.3 percent, while the share with advanced degrees increased from 4.8 percent to 6.5 percent. The less educated were typically managing retirement or other small-scale operations while more educated operators were managing larger or rural lifestyle operations.

Farming is a business. Farm operators may join with spouses and other family members as well as with non-related partners to operate the business. Only 20 percent of farms are run by a single farmer. As a business, a farm controls assets. As opposed to small businesses like a retail store or a service provider, a farm's assets are usually considerable, consisting of large expanses of land, machinery and equipment, and inventories of crops and livestock. Obtaining these resources and managing them for profit requires

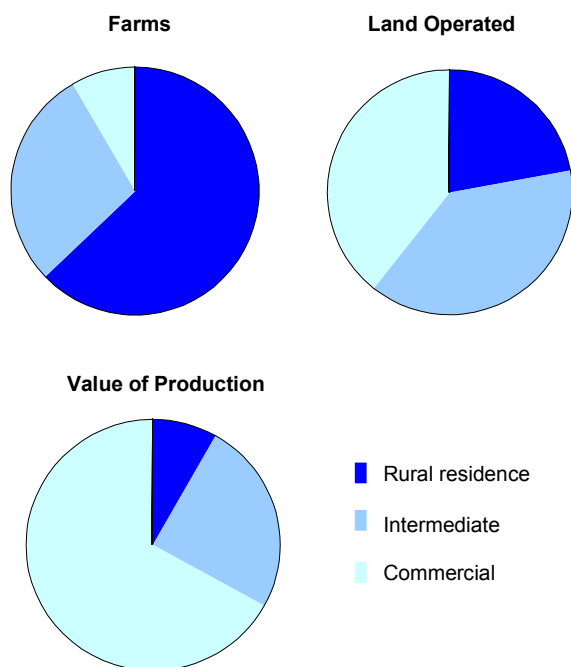
Overview

experience, education, risk taking, creditworthiness, and business savvy.

Farm income is just one component of total farm household income. Mimicking the general economy, dual career farm families are the norm rather than the exception. Fifty-five percent of farm operators work off the farm with over 45 percent of spouses also employed off-farm. Average net cash farm income on rural residence farms is actually negative (minus \$4,484) and off-farm earnings provide for essentially all the family's income. Reasons that small operations stay in farming when they are not earning a profit include the possibility that the operator is retired, views farming as a way to diversify investments, likes the amenities of a rural lifestyle, or some combination of all three.

Figure 1

Share of farms, land operated, and value of production by typology group, 2000



Source: 2000 ARMS, USDA.

Defining the Farm Typology

Rural Residence Farms:

Limited-resource. Any small farm with gross sales less than \$100,000, total farm assets less than \$150,000, and total operator household income less than \$20,000. Limited-resource farmers may report farming, a nonfarm occupation, or retirement as their major occupation.

Retirement. Small farms whose operators report they are retired (excludes limited-resource farms operated by retired farmers).

Residential/lifestyle. Small farms whose operators report a major occupation other than farming (excludes limited-resource farms with operators reporting a nonfarm major occupation).

Intermediate Farms:

Farming occupation/lower-sales. Small farms with sales less than \$100,000 whose operators report farming as their major occupation (excludes limited-resource farms whose operators report farming as their major occupation).

Farming occupation/higher-sales. Small farms with sales between \$100,000 and \$249,999 whose operators report farming as their major occupation.

Commercial Farms:

Large family. Farms with sales between \$250,000 and \$499,999.

Very large family. Farms with sales of \$500,000 or more.

Nonfamily. Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers. In analyzing the farm operator household, this group is excluded.

Farm Business Income Prospects Differ Among Farms

The projected 6-percent gain in sector net cash income in 2001 will not affect all farm operations in the same manner or to the same degree. Income prospects for individual farm businesses (intermediate and commercial farms) will depend on their mix of crop and livestock enterprises, the extent to which Government payments contribute to gross income, and the relative importance of fertilizer and other energy dependent inputs among the operation's cash expenses.

While total market receipts are expected to rise more than 6 percent, livestock receipts are projected to gain relative to crop sales. Livestock receipts are anticipated to rise about 9 percent in 2001, while crop receipts will improve 3 percent. Dairy and poultry are projected to experience the largest gains in commodity sales, while cotton and tobacco are expected to record the largest decline in cash receipts.

An assumed 12-percent decline from 2000 in Government payments would have its greatest impact on those operations where payments account for a larger share of gross income. Similarly, even though aggregate production expenses are projected to register only modest increases, an 18-percent surge in fertilizer expenditures will most directly affect those operations for which fertilizer is a large component of total production expenses and production adjustments are infeasible.

Changes in net cash income for any operation will be driven largely by the relative importance of the following factors—differentially improving commodity cash receipts, reduced Government payments, and rising fertilizer expenditures—and their interdependence in the income and cost structure of that operation.

Average net cash income of farms by size, type, and location can be projected by applying the expected 2001 change in each income statement item to that component reported in the 2000 Agricultural Resource Management Study (ARMS) Survey. Results suggest that changes in net cash income will vary widely by size of farming operation in 2001 (table 2). The 63 percent of U.S. farms that are

classified as rural residences account for only 10 percent of the total value of U.S. agricultural production and typically rely on off-farm income for meeting household financial needs. These small farming operations reported negative net cash farm income in 2000 and are likely to experience a slight rise in losses from farming in 2001.

Farms dependent on farming as a primary source of income project mixed results for 2001. Commercial farms, whose sales exceed \$250,000, account for 8 percent of all farms but generate 60 percent of the total value of U.S. agricultural production. These farms and ranches are expected to report a 5-percent rise in 2001 net cash income, on average, to more than \$140,000. Large livestock operations contribute to the improved earnings of this group, whose net cash income is projected to be near the 1996-2000 mean. The 29 percent of operations that are classified as intermediate farms, those with sales less than \$250,000 where the primary occupation of the operator is farming, are expected to report a decline in net cash income of more than 8 percent in 2001. The predominance of modest-sized crop farms in this group accounts for much of the decline.

Farm Income Prospects for Commercial and Intermediate Farms

Limiting the analysis to the 37 percent of farm operations classified as commercial and intermediate farms, those operations most affected by 2001 projections can be identified. As might be expected, farms specializing in livestock production will see the largest income gains. Dairy operations are projected to show the most improvement in 2001, with average net cash income rising almost \$40,000 per farm. Higher milk prices are likely to push gross livestock product sales up \$50,000 per farm, more than offsetting the anticipated \$4,000 rise in feed expenses and \$2,000 increase in fertilizer expenses. Dairies are expected to fare well in relative terms: net cash incomes are expected to rise 54 percent, as the combination of a 23-percent rise in dairy cash receipts and only a 4-percent increase in cash expenses translate into improved net earnings.

Poultry operations are also expected to enjoy favorable conditions in 2001, as a cash receipts rise of 11 percent drives net cash incomes up more than

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Table 2--Farm business average net cash income

	Average 1996-2000	2000	2001F	2001/ 1996-2000 average	2001/ 2000	Share of farms
	---\$1,000 per farm---			-----Percent-----		
Farm Size:						
Commercial farms	141.8	133.8	141.1	-0.6	5.4	8.2
Intermediate farms	12.3	11.8	10.8	-11.9	-8.5	28.8
Rural residence farms	-1.8	-1.8	-2.3	-28.2	-27.8	63.0
All farm businesses 1/	41.4	38.8	39.6	-4.4	2.1	100.0
Resource region:						
Heartland	42.6	38.0	36.6	-14.1	-3.6	25.2
Northern Crescent	42.3	45.3	54.6	29.1	20.5	14.1
Northern Great Plains	42.3	33.0	30.9	-27.0	-6.5	7.6
Prairie Gateway	35.2	33.5	32.9	-6.4	-1.7	13.5
Eastern Uplands	14.0	13.3	14.2	1.5	7.0	11.0
Southern Seaboard	27.5	30.5	28.0	1.8	-8.2	7.7
Fruitful Rim	84.0	71.2	75.7	-9.9	6.3	12.7
Basin and Range	33.2	36.6	38.0	14.3	3.8	4.4
Mississippi Portal	47.8	34.3	22.5	-53.0	-34.5	3.7
Commodity specialization:						
Mixed grain	44.9	41.4	32.4	-27.8	-21.7	9.1
Wheat	35.8	37.0	28.0	-21.7	-24.3	2.9
Corn	44.6	39.3	30.8	-30.9	-21.6	9.9
Soybeans	29.6	23.4	19.6	-33.9	-16.3	4.5
Tobacco, cotton, and peanuts	44.4	44.2	25.3	-43.0	-42.8	4.2
Other crops	32.4	32.8	26.1	-19.3	-20.2	8.6
Specialty crops	94.0	77.0	69.8	-25.7	-9.3	9.6
Beef cattle	15.7	14.8	16.5	5.6	12.0	30.0
Hogs	71.6	77.7	85.6	19.6	10.1	2.1
Poultry	95.0	114.5	141.1	48.4	23.2	2.8
Dairy	73.5	73.1	112.6	53.3	54.0	8.8
Other livestock	8.5	16.6	17.9	111.4	7.7	7.5

F = forecast. 1/ Excludes rural residences.

Source: 2000 ARMS survey, USDA.

23 percent. This translates into an expected net cash income gain of \$27,000 per poultry farm. Much of this improvement will be in the broiler segment of the industry; turkey and egg producers are projected to record declining net cash incomes as receipts fail to keep pace with rising expenses.

Beef and hog operations are also anticipated to enjoy double-digit gains in net cash income in 2001. These gains are largely attributable to modestly improving cash receipts for these livestock commodities and the lower relative importance of Government payments and fertilizer expenses for producers of beef, hogs, and other livestock.

Crop farms, on the other hand, will not fare as well. Wheat farms are projected to see net cash income drop by about \$9,000 per farm in 2001. Crop receipts accounted for more than 44 percent of 2000 gross cash income on wheat farms, while Government payments contributed more than 30 percent. Fertilizer accounted for more than 23 percent of cash expenses.

The dynamics of the drop in wheat farmers' net cash income are similar to those of producers of most other crops in 2001: the expected \$2,000 per farm gain from crop sales is anticipated to be more than offset by a nearly \$6,000 decline in Government payments and a \$5,000 rise in fertilizer expenses. Taken together, these factors are projected to result in a 24-percent drop in net cash income for wheat farms.

These same influences are expected to reduce net cash income of corn farms by 22 percent, while soybean producers record a 16-percent decline. The expected decline in Government payments is expected to offset the rise in crop receipts for corn and soybean farms. The relative declines are almost completely attributable to rising fertilizer expenses, which are expected to drive up expenses \$6,300 per corn farm and \$3,500 per soybean farm.

Farms in the tobacco/cotton/peanut farm type are likely to experience the largest drops in net cash income in 2001, as producers of these commodities face falling cash receipts, as well as declining Government payments and rising fertilizer expenses. Despite a 13-percent rise in peanut receipts, net cash incomes on tobacco/cotton/peanut farms are projected

to be down almost 43 percent, as tobacco receipts drop 22 percent and cotton receipts also decline.

Farm Income Prospects of Intermediate and Commercial Farms Vary by Region

Regional variations in projected net cash income align with the relative importance of commodities produced in each region ([fig. 2](#)). Expected gains on farm operations in the Northern Crescent are driven largely by dairies, while improvements in the Eastern Uplands and Basin and Range are attributable to the livestock operations in those regions. Moderately negative changes in the Heartland, Northern Great Plains, and Prairie Gateway reflect the importance of commodity diversification in those regions, as the anticipated gains on livestock operations compensate for expected losses on crop farms.

Potential Debt Repayment Problems Follow Pattern

As expected, crop farms and areas with a high concentration of crop farms are likely to see other measures of financial performance decline in 2001. Wheat farms are expected to show the greatest increase in farms reporting negative net cash income 2001, which is also reflected in the Northern Great Plains showing the highest regional rise in negative income operations ([fig. 3](#)). Similarly, the share of farms likely to experience difficulty in meeting scheduled loan payments in 2001 is highest among wheat farms and those in the Northern Great Plains ([fig. 4](#)).

Farm Income Prospects for Owner-Operators and Tenants

About 40 percent of all intermediate and commercial farm operators reported owning all of the land that they operated in 2000, while about 11 percent owned no land at all, farming only rented land. Nearly half of all farmers operate both owned and rented land. Net cash income for full owners is expected to rise about 13 percent in 2001, while full tenants can anticipate an 8-percent drop in net cash income. This disparity is due to the nature of the farming operations run by full owners and full tenants. Full

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Figure 2
U.S. farm resource regions

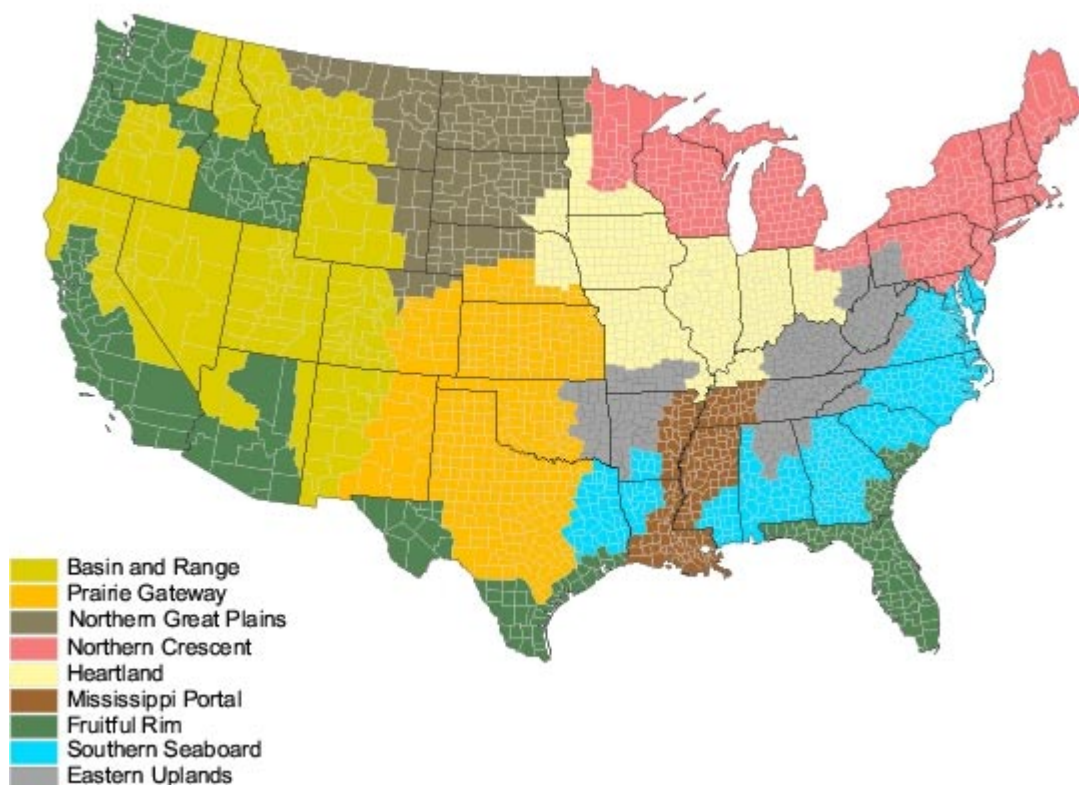
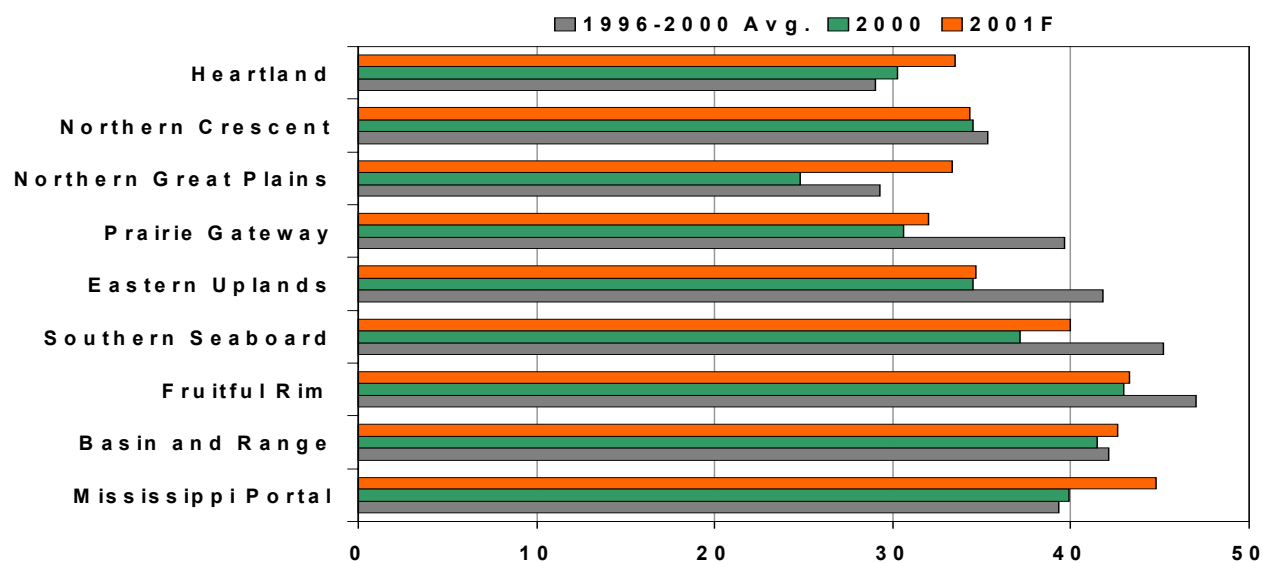


Figure 3
Distribution of farm businesses with negative net cash income by resource region



F = forecast.
Source: Economic Research Service, USDA.

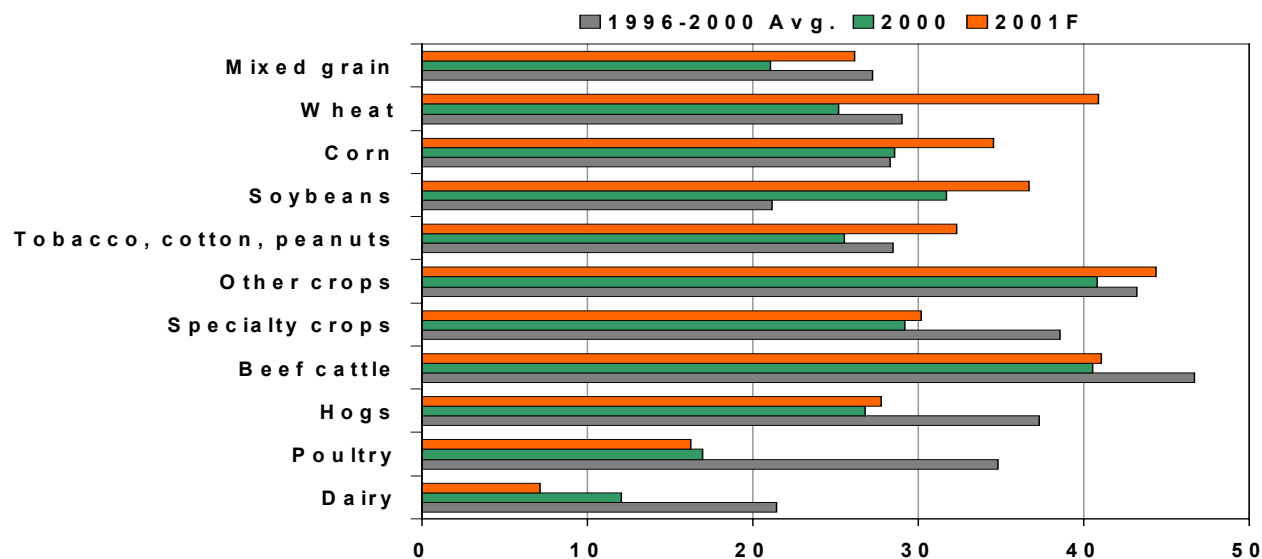
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owners tend to operate smaller livestock operations, as reflected in their projected average net cash income of \$35,000 per farm in 2001. Full tenants are

expected to receive \$47,400 in net cash income, primarily due their management of larger cash grain operations.

Figure 4

Distribution of farm businesses with negative net cash income by production specialty



F = forecast.

Source: Economic Research Service, USDA.

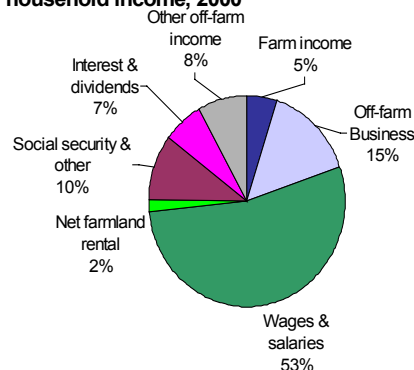
Prospects for Farm Households

The number of U.S. farms has decreased since the 1930s and average size, measured in either sales volume or acres, has increased. Most farms are small, and more than half have sales less than \$10,000. As a result, households operating small farms rely heavily on off-farm income from the local economy. At the other extreme, some farms have sales in the millions. These and other differences present challenges when analyzing the economic structure and financial conditions of U.S. agriculture.

Today there are just over 2.1 million farm operator households. Average farm household income for 2001 is forecast at \$62,021 per household, up less than 1 percent from last year (table 4). Continuing low crop prices are causing the farm income component of total household income to fall for the fourth year in a row (fig. 5). However, off-farm earnings are up 1 percent, slightly less than last year, so total household income is expected up this year. While up in nominal terms, the general economy has slowed down this year, affecting wages and salaries for off-farm earnings. High-tech jobs have been particularly affected.

As mentioned earlier in this report, today's farm household cannot be easily classified into one general category. As such, U.S. sector income forecasts mask differences among farm families. In the 2000 ARMS survey, 64.3 percent of farm households fell into the rural residence typology, with 43 percent in the residential/lifestyle subgroup. Not unexpectedly, over two-thirds of rural residence households reported off-farm jobs and of those operators working off the farm, over 86 percent worked over 35 hours per week. Nearly half of all spouses also had off-farm jobs, with 72 percent working over 35 hours per week. This implies that these small operations are run by individuals who likely do not consider agriculture their primary occupation. These farmers produce less than 10 percent of U.S. agriculture's value. Average income from farming activities is negative for this group (minus \$4,638 in 2000), although some farms within the group will have positive farm income. Average off-farm income for this group is the highest of the three major farm typology groups.

Figure 5
Sources of income for average farm operator household income, 2000



Note: Percentages do not add due to rounding.
Source: 2000 Agricultural Resource Management Study, version 1 only

Households operating four types of small farms--limited-resource, retirement, residential/lifestyle, and farming occupation/lower sales--rely on off-farm income sources for virtually all their income (fig. 6). On average, they actually lose money (or nearly break even) from farming activities. Limited resource and retirement farms obtain most of their off-farm income from unearned income (net income from farmland rental, interest, dividends, social security, and other passive sources). Residential/lifestyle and farming occupation/lower sales small farms rely more on earned income (wages, salaries, and off-farm business income).

Households operating the remaining family farms--higher sales small family farms, large family farms, and very large family farms--on average have positive earnings from farming. The share of household income from farming increases with farm size (measured by gross sales). While higher-sales small family farms obtain on average 30 percent of their total household income from farming activities, very large family farms obtain on average 79 percent from farming activities. The off-farm income earned by households in these three groups is substantial. For example, households operating very large farms receive an average of \$37,338 from off-farm activities. These households obtain most of their off-farm income from earned income (wages, salaries, and off-farm business income).

What Off-Farms Jobs Are Reported?

The average farm household in 1999 (the latest year for which a comparison is available) had an income of \$64,347, compared to a \$54,842 average for non-

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Figure 6

Average operator household income by source and farm typology, 2000



Source: 2000 ARMS survey, USDA.

farm households. This is a dramatic reversal of positions from as recently as 40 years ago. Since 1964, earnings from off-farm sources have grown twelvefold from \$10.1 billion to over \$124 billion in 2000. Meanwhile, sectorwide net cash farm income has increased fourfold. Thus, off-farm earnings of farmers and their families have substantially driven the increase in farm household earnings.

In 1999, ERS asked farmers to report the type of off-farm work they and their spouses worked. As expected, most farm operators worked for a private company, business, or individual. However, a surprising number were running their own non-farm businesses. Spouses tended to work for a Government or school district, but many were self-employed. With current agricultural technology, it is possible to manage a farm of substantial size after work hours and on weekends and still have time for a full-time non-farm job. Small to medium cow-calf operations also require relatively little time or inputs, allowing time for other employment. Much of the popularity in raising contract livestock is that it allows for other employment. For the intermediate and commercial typology groups, half of those operations where the operator worked off-farm

reported working over 35 hours per week. Within these 2 groups, only the largest operations with agricultural sales over \$500,000 had less than 50 percent of operators holding off-farm jobs working over 35 hours per week. However, only 17 percent of the largest operations reported the operator holding an off-farm job.

Regional Perspective

The most current data available to examine farm household income at the regional and farm type level is from the recently completed 2000 ARMS survey. According to the survey, more farm operator households (20 percent of all households) were located in the Heartland region than in the other resource regions. Average household income in this region was \$57,525 in 2000, which is 7 percent below the national average. Forty-two percent of these households, which operate cash grain and oilseed type farms, averaged \$63,302 in household income. Another 22 percent of the households, which operate beef farms, averaged \$50,440.

The highest average total household income at \$82,129 was realized in the Fruitful Rim region, with

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91 percent of the income coming from off-farm sources. Farmers in this region also had both the highest off-farm income and the highest farm income of any of the ERS farm resource regions.

Farms in the Mississippi Portal region had the lowest average household income (\$46,174) and lowest off-farm income (\$44,914). Better than half of these households operated beef type farms. Farm households in the Eastern Uplands and Southern Seaboard regions had, on average, negative farm income.

Farm Type

A farm's type is determined by the one commodity or group of commodities that makes up at least 50 percent of the farm's total value of agricultural production. Using this definition, about a third of all U.S. farm households can be classified as a particular type. The other farms have a mix of commodities, none of which accounts for at least 50 percent of total production value. Because this definition depends on yearly prices, an individual operation may be classified as one type one year and another type another year.

Cash grain farms make up the largest share of U.S. farms and ranches. Low grain prices for 2001 will likely be offset somewhat by Government payments, keeping farm incomes for these operations steady with last year. The average income of households that operated cash grain and oilseed type farms (15 percent of all U.S. farms) was \$59,210 in 2000, with 16 percent of this income attributed to farming activities. About 56 percent of cash grain and oilseed type farms are located in the Heartland region. Cotton farms had an average income of \$78,384, with 48 percent of this income attributed to farming activities.

Cattle and calves make up the single largest sector of the agricultural economy in terms of cash receipts. This sector has been showing financial strength this year. ERS' 2000 ARMS survey showed an average income of beef farms (38 percent of all farms) of \$56,193. However, on average, net cash income of these farm households was negative, with off-farm income covering cattle losses. About 23 percent of surveyed beef farms were located in the Eastern

Uplands region, where the average household income was \$51,001.

High milk prices forecast for this year along with low feed costs are benefiting U.S. dairies. Dairy producers reported an average income of \$52,699 when surveyed last year, with 63 percent of this income attributed to farming activities. About 58 percent of dairy type farms are located in the Northern Crescent region. These operations' average household income was \$45,724. The highest regional average household income for dairy farms was \$105,444 in the Fruitful Rim, which has a number of larger, often drylot, dairy operations.

Farm Household Well-Being Varies by Farm Typology

The financial condition of farm operator households and financial performance of farms they manage differs considerably among household units. ARMS data, excluding nonfamily farms, suggest that the financial condition of households operating farms, on average, was strong entering 2001 ([tables 3 and 4](#)). Income from all sources on the average family farm totaled almost \$62,000 in 2000, and most farms have accumulated a substantial asset and net worth base. The total value of household assets exceeded \$625,000 on family farms in 2000, and, with household debt less than \$78,000, average net worth approached \$550,000. One-third of all family farm households reported net worth more than \$500,000, while fewer than 12 percent had net worth less than \$100,000.

About 42 percent of all farms reported some debt outstanding at the end of 2000, but debt levels did not appear especially burdensome, as evidenced by a debt-to-asset ratio of 12 percent. Family farms had borrowed about 45 percent of the total household debt they could service with 2000 income. However, debt repayment could become problematic for the 52 percent of indebted farms whose borrowings exceeded 120 percent of the amount they could service with current income. These highly indebted operations owe about 54 percent of all liabilities.

Analysis of ARMS data using ERS' farm typology classification system illustrates the diversity among family farms. About 6 percent of all family farms are

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Table 3--Average income to farm operator households by farm type, 2000

	Rural residence farms	Intermediate farms	Commercial farms	All farms
Number of farms	1,363,803	624,418	133,268	2,121,489
Percent of farms	64.3	29.4	6.3	100
Net cash farm business income	*-1,828	11,784	141,381	11,175
Less depreciation	2,481	9,258	48,342	7,357
Less wages paid to operator	*52	590	6,385	608
Less farmland rental income	531	1,018	1,847	757
Less adjusted farm business income due to other household(s)	*-130	*318	12,593	801
Equals adjusted farm business income	-4,762	@600	72,215	*1,652
Plus wages paid to operator	*52	590	6,385	608
Equals farm self-employment income	-4,710	#1,191	78,599	*2,260
Plus other farm-related earnings	*72	509	2,264	339
Wages paid to other operator household members	*56	363	1,815	257
Commodities paid to household members	*16	146	449	82
Equals earnings of the operator household from farming activities	-4,638	*1,699	80,863	2,598
Plus earnings of the operator household from off-farm sources	68,197	42,492	37,587	58,709
Equals average farm operator household income	63,560	44,191	118,450	61,307
Share from farming activities	-0.073	*0.038	0.683	0.042

* indicates that the standard error of the estimate is greater than 25 percent and less than or equal to 50 percent.

indicates that the standard error of the estimate is greater than 50 percent and less than or equal to 75 percent.

@ indicates that the standard error of the estimate is above 75 percent.

Source: 2000 USDA Agricultural Resource Management Study.

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Table 4--Distribution of farm operator household income among farms, 2000

	Number of households	Distribution of households	Total household income	Farm income	Off-farm income	Off-farm income as share of total
	Number	Percent	----- Dollars per farm -----			Percent
All operator households	2,121,489	100.0	61,307	2,598	58,709	95.8
Farm typology:						
Rural residence farms	1,363,803	64.3	63,560	-4,638	68,197	107.3
Intermediate farms	624,418	29.4	44,191	*1,699	42,492	96.2
Commercial farms	133,268	6.3	118,450	80,863	37,587	31.7
Major source of income:						
Farm income less than off-farm income	1,357,951	64.0	54,105	-14,134	68,239	126.1
Farm income equal to or greater than off-farm income	763,537	36.0	74,115	32,357	41,759	56.3
Farm type:						
Cash grain, cotton, and oilseed	336,830	15.9	59,932	10,300	49,632	82.8
Other crop	540,456	25.5	62,027	*3,071	58,956	95.0
Beef	800,309	37.7	56,193	*-2,568	58,761	104.6
Hog	26,102	1.2	62,982	*27,163	35,819	56.9
Dairy	76,491	3.6	52,699	33,444	19,254	36.5
Other livestock	341,299	16.1	75,317	@-2,429	77,746	103.2
ERS resource regions:						
Heartland	428,012	20.2	57,525	6,453	51,071	88.8
Northern Crescent	301,780	14.2	62,876	@1,968	60,907	96.9
Northern Great Plains	93,589	4.4	55,837	#5,146	50,691	90.8
Prairie Gateway	288,268	13.6	63,233	#2,171	61,062	96.6
Eastern Uplands	350,095	16.5	55,558	*-2,120	57,679	103.8
Southern Seaboard	234,144	11.0	58,328	@-682	59,010	101.2
Fruitful Rim	233,104	11.0	82,129	#7,371	74,758	91.0
Basin and Range	84,866	4.0	68,228	@1,146	67,082	98.3
Mississippi Portal	107,630	5.1	46,174	@1,260	44,914	97.3
County type:						
Farming-dependent counties	276,210	13.0	55,638	*9,528	46,110	82.9
Other counties	1,845,279	87.0	62,156	#1,561	60,594	97.5
Operator's age:						
Younger than 35 years	134,467	6.3	47,697	@2,539	45,159	94.7
35 to 44 years	344,854	16.3	65,881	*4,643	61,238	93.0
45 to 54 years	586,686	27.7	78,451	*5,145	73,305	93.4
55 to 64 years	492,137	23.2	67,062	*2,202	64,860	96.7
65 years or older	563,343	26.6	38,874	@-945	39,819	102.4
Operators' major occupation:						
Farming	792,344	37.3	52,631	13,341	39,290	74.7
Nonfarm work	952,603	44.9	77,515	*-4,714	82,228	106.1
Retired, still farming	376,542	17.7	38,561	*-1,508	40,069	103.9
Hours operator worked on farm:						
Less than 500 hours	441,253	20.8	65,793	*-2,029	67,823	103.1
500 to 999 hours	476,353	22.5	59,440	-4,124	63,564	106.9
1,000 to 1,999 hours	612,599	28.9	62,592	-4,317	66,908	106.9
2,000 hours or more	591,284	27.9	58,132	18,632	39,500	67.9

* indicates that the standard error of the estimate is greater than 25 percent and less than or equal to 50 percent.

indicates that the standard error of the estimate is greater than 50 percent and less than or equal to 75 percent.

@ indicates that the standard error of the estimate is above 75 percent.

Source: 2000 USDA Agricultural Resource Management Study.

Farm Household Outlook

classified as *commercial farms*, reporting sales greater than \$250,000. These large operations efficiently manage a substantial asset base, generating more than \$140,000 in net cash income on almost \$2,000,000 in owned assets, with average farm net worth of almost \$1,575,000. These farms reported an additional \$100,000 in nonfarm net worth. Three-fourths of these operations reported total farm and nonfarm net worth greater than \$500,000, while only 3 percent had net worth less than \$100,000.

Commercial farms generate sizeable cash flows and make extensive use of credit. Three-fourths of commercial farms reported debt balances entering 2001, but only 29 percent of indebted commercial farms reported levels exceeding 120 percent of the debt that could be serviced with 2000 income. These highly indebted operations owed more than 41 percent of all household debt reported by commercial farms.

Intermediate farms, those with sales less than \$250,000, and indicating that farming is the operator's primary occupation, account for 30 percent of all family farms. While these generate negative rates of return on farm assets, on average, they reported off-farm household income of more than \$42,000 in 2000. These farms, despite low returns to farming, employed owned assets of more than \$625,000, on average, and reported farm net worth of \$565,000. Household net worth totaled almost

\$640,000 per farm, and only 6 percent of these operations reported net worth less than \$100,000. Slightly more than half of these farms reported debt at the end of 2000, but 45 percent indicated potentially burdensome debt levels. These indebted farms owed almost 56 percent of all household liabilities reported by intermediate farms.

About 64 percent of family farms are *rural residences*. Traditional farm financial performance measures are meaningless in assessing the financial condition of those rural residences that gauge their well-being by off-farm employment conditions in the rural economy. While farming activities on rural residence farms generated negative net cash income, on average, these operations reported farm assets valued at almost \$320,000. Low returns to farming in 2000 were offset by average off-farm income of more than \$68,000.

Due mainly to the value of operator dwellings, rural residence farms had an average farm net worth of almost \$300,000, and an additional \$100,000 in nonfarm net worth. About one-third of these farms reported farm debt outstanding at the end of 2000, with farm debt-to-asset ratios averaging less than 7 percent. However, household nonfarm debt exceeded farm liabilities by 18 percent, and average household debt-to-asset ratio approached 11 percent. Only 15 percent of these farms reported household net worth less than \$100,000.

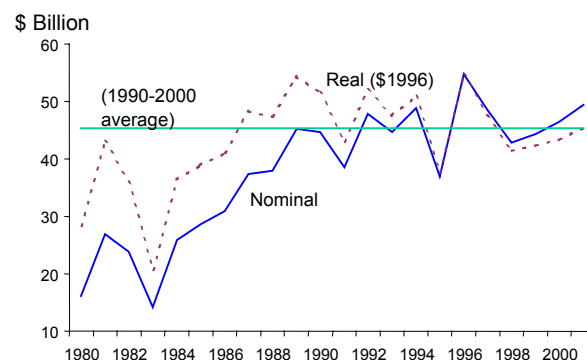
Rise in Sector Farm Income Forecast Fueled by the Livestock Sector

Net cash income is forecast to be \$60.8 billion in 2001, surpassing 1993's previous record and \$3.3 billion more than 2000's \$57.5 billion. Similarly, net farm income for the U.S. agricultural sector is forecast to be \$49.4 billion in 2001. This would be \$3 billion more than the \$46.4 billion reported in 2000 and \$4.1 billion above the 1990-2000 average of \$45.3 billion. These aggregate measures mask the distinctly contrasting economic environments experienced by the crop and livestock sectors of the U.S. farm economy. The value of livestock production is expected to rise \$9.6 billion in 2001, placing it \$16.8 billion above the 1996 level. In stark contrast, the value of crop production is forecast to rise \$2 billion in 2001, but still remains \$18.2 billion below the 1996 level. The year 1996 is an important benchmark because it is the beginning of an unusual long period of generally favorable weather now stretching to 6 consecutive years (fig. 7).

The total value of crop production (final crop output) for 2001 is forecast at \$97.3 billion, up \$2 billion from last year. This is noteworthy because by 1999, the value of crop production had fallen by \$22.3 billion from its record \$116 billion in 1996, primarily as a consequence of declining market prices available to farmers. For the major field crops, cash receipts are expected to be up about \$2.5 billion for feed grains, oil crops, and food grains and down about \$1.1 billion for tobacco and cotton.

The \$9.6-billion rise in the value of livestock production in 2001 is led by dairy with a year-over-year gain of \$4.7 billion as a result of rising milk prices. The value of dairy production was down \$2.6 billion in 2000, putting the 2000 level about \$2.2 billion below that of 1996. Milk production rose more than 3 percent in 1999 and 2000 as a result of hefty gains in milk production per cow. Consequently, dairy product prices were under pressure throughout 2000. Milk prices averaged about \$12.30 per

Figure 7
Net farm income 1980-2001F



F = forecast.

Source: Economic Research Service, USDA.

hundredweight (cwt.) in 2000, down \$2 from a year earlier and the lowest since at least 1991. Milk prices have recovered in 2001 and at times have exceeded \$15 per cwt. Low market prices for feed crops and oil crops benefit livestock producers because these commodities are the primary ingredients in livestock feed and therefore result in lower feed costs.

The rise in cattle production has been the real story over the 1996-2001 period and market prices for cattle have risen to levels not experienced since the early 1990s. The value of production for meat animals (cattle, hogs, and sheep) has risen \$10.8 billion since 1996, with cattle sales up nearly \$11.3 billion over that period.

Government payments are assumed to be approximately \$2.9 billion less in 2001 than last year, where Government payments were a record \$22.9 billion (tables 5 and 6). Emergency assistance originating from special legislation comprised \$8.5 billion of total Government payments in 2000 and is forecast to be \$9.1 billion in 2001. Higher crop prices will result in nearly \$2.5 billion less in Loan Deficiency Payments, which were also a significant component of total payments in 2000. Production Flexibility Payments which were contracted in the 1996 farm bill will be \$4 billion--one billion less than 2000.

Sector Income

Table 5—Farm marketings, Government payments, and principal commodities, by State, 2000

State	Farm marketings			Government payments	State rank for total farm marketings, four principal commodities in order of marketing receipts, and percentage of total marketings
	Total	Crops	Livestock and products		
	1,000 Dollars				
AK	51,933	20,226	31,707	1,672	49-Greenhouse, dairy, hay, potatoes (39%)
AL	3,272,295	588,446	2,683,849	170,852	24-Broilers, cattle/calves, chicken eggs, greenhouse (83%)
AR	4,887,463	1,639,079	3,248,384	900,648	13-Broilers, rice, cattle/calves, soybeans (68%)
AZ	2,289,754	1,226,432	1,063,322	107,066	29-Cattle/calves, dairy, cotton, hay (55%)
CA	25,509,829	19,240,740	6,269,089	667,466	1-Dairy, grapes, greenhouse, lettuce (42%)
CO	4,561,322	1,228,871	3,332,451	351,116	16-Cattle/calves, corn, hogs, dairy (74%)
CT	502,521	337,056	165,465	18,143	44-Greenhouse, dairy, chicken eggs,aquaculture (60%)
DE	741,179	183,801	557,378	25,028	40-Broilers, soybeans, corn, greenhouse (81%)
FL	6,951,096	5,573,093	1,378,003	56,741	9-Greenhouse, oranges, tomatoes, sugar cane (56%)
GA	5,049,552	1,944,550	3,105,002	380,057	12-Broilers, cotton, chicken eggs, peanuts (63%)
HI	530,183	443,543	86,640	11,927	41-Pineapples, greenhouse, sugar cane, macadamia nuts (56%)
IA	10,774,252	5,027,118	5,747,134	2,302,094	3-Hogs, corn, soybeans, cattle/calves (90%)
ID	3,389,246	1,761,120	1,628,126	261,297	23-Dairy, cattle/calves, potatoes, wheat (70%)
IL	7,022,330	5,312,484	1,709,846	1,943,916	8-Corn, soybeans, hogs, cattle/calves (87%)
IN	4,580,756	2,886,234	1,694,522	938,464	14-Corn, soybeans, hogs, dairy (73%)
KS	7,905,407	2,417,203	5,488,204	1,231,923	5-Cattle/calves, wheat, corn, sorghum grain (87%)
KY	3,605,477	1,270,606	2,334,871	448,473	21-Horses/mules, tobacco, cattle/calves, broilers (72%)
LA	1,819,807	1,166,533	653,274	451,831	33-Sugar cane, cotton, cattle/calves, rice (51%)
MA	391,875	300,964	90,911	10,973	45-Greenhouse, dairy, cranberries, apples (62%)
MD	1,472,742	624,878	847,864	88,470	36-Broilers, greenhouse, dairy, soybeans (68%)
ME	503,594	241,811	261,783	13,851	43-Potatoes, dairy, aquaculture, chicken eggs (66%)
MI	3,474,924	2,139,628	1,335,296	381,056	22-Dairy, greenhouse, soybeans, corn (55%)
MN	7,522,018	3,647,249	3,874,769	1,502,230	6-Soybeans, hogs, corn, dairy (64%)
MO	4,566,967	1,890,453	2,676,514	869,390	15-Cattle/calves, soybeans, hogs, corn (64%)
MS	2,922,459	885,835	2,036,624	463,901	27-Broilers, cotton, aquaculture, cattle/calves (73%)
MT	1,806,371	704,315	1,102,056	490,002	34-Cattle/calves, wheat, barley, hay (85%)
NC	7,409,676	3,134,768	4,274,908	447,096	7-Hogs, broilers, greenhouse, tobacco (66%)
ND	2,689,343	2,049,942	639,401	1,170,234	28-Wheat, cattle/calves, soybeans, sugar beets (61%)
NE	8,951,881	3,029,152	5,922,729	1,406,971	4-Cattle/calves, corn, soybeans, hogs (91%)
NH	154,371	94,216	60,155	4,768	48-Greenhouse, dairy, cattle/calves, apples (76%)
NJ	812,247	619,146	193,101	22,481	39-Greenhouse, horses/mules, blueberries, dairy (60%)
NM	2,086,411	473,304	1,613,107	79,495	31-Cattle/calves, dairy, hay, greenhouse (85%)
NV	386,462	149,250	237,212	3,918	47-Cattle/calves, hay, dairy, onions (82%)
NY	3,122,868	1,188,575	1,934,293	159,876	25-Dairy, greenhouse, cattle/calves, apples (69%)
OH	4,404,604	2,653,890	1,750,714	678,104	17-Soybeans, corn, dairy, greenhouse (61%)
OK	4,219,858	779,193	3,440,665	439,851	18-Cattle/calves, hogs, broilers, wheat (82%)
OR	3,049,277	2,222,981	826,296	137,401	26-Greenhouse, cattle/calves, dairy, hay (49%)
PA	4,033,373	1,252,000	2,781,373	147,848	19-Dairy, cattle/calves, greenhouse, chicken eggs (62%)
RI	47,976	40,296	7,680	1,218	50-Greenhouse, dairy, sweet corn, potatoes (78%)
SC	1,544,226	752,342	791,884	144,499	35-Broilers, greenhouse, tobacco, turkeys (58%)
SD	3,790,061	1,755,116	2,034,945	789,895	20-Cattle/calves, soybeans, corn, wheat (77%)
TN	2,019,679	1,029,880	989,799	298,873	32-Cattle/calves, broilers, greenhouse, tobacco (52%)
TX	13,343,556	4,181,401	9,162,155	1,647,066	2-Cattle/calves, greenhouse, cotton, broilers (74%)
UT	1,010,202	240,004	770,198	36,181	37-Cattle/calves, dairy, hogs, hay (72%)
VA	2,281,203	732,331	1,548,872	152,452	30-Broilers, cattle/calves, dairy, turkeys (56%)
VT	507,903	66,759	441,144	26,093	42-Dairy, cattle/calves, greenhouse, maple products (91%)
WA	5,049,735	3,339,415	1,710,320	352,503	11-Apples, cattle/calves, dairy, potatoes (54%)
WI	5,220,527	1,416,149	3,804,378	603,213	10-Dairy, cattle/calves, corn, soybeans (79%)
WV	390,704	51,321	339,383	23,509	46-Broilers, cattle/calves, turkeys, dairy (75%)
WY	954,360	159,649	794,711	34,302	38-Cattle/calves, sugar beets, hay, hogs (87%)
US	193,585,849	94,113,346	99,472,503	22,896,433	Cattle/calves, dairy, corn, broilers (47%)

Source: Economic Research Service, USDA.

Sector Income

Table 6--Direct Government payments, 1997-2001F

Item	1997	1998	1999	2000	2001F	Change from 2000 to 2001
			\$ million			
Total direct payments 1/	7,495.3	12,380.0	21,513.1	22,896.4	20,013.0	-2,883.4
Marketing Loan Gains 2/	0.0	171.1	895.5	1,127.1	1,000.0	-127.1
Production flexibility contracts (AMTA)	6,119.8	6,000.6	5,045.7	5,048.8	4,046.0	-1,002.8
Loan deficiency payments	-0.1	1,783.0	5,919.1	6,424.5	3,900.0	-2,524.5
Conservation 3/	1,692.9	1,474.9	1,493.6	1,614.7	1,667.0	52.3
Emergency assistance 4/	0.0	2,818.0	7,803.9	8,492.5	9,122.0	629.5
Miscellaneous 5/	-317.4	132.5	355.4	188.8	278.0	89.2

F = forecast. Numbers may not add due to rounding.

1/ Includes only those funds paid directly to farmers within the calendar year. 2/ In publications prior to May of 2001, marketing loan gains were included in cash receipts rather than in Government payments. 3/ Includes amount paid under the following conservation programs -- Conservation Reserve, Agricultural Conservation, Emergency Conservation, and Great Plains Programs. 4/ Includes payments to farmers as a consequence of emergency Supplemental Assistance Legislation enacted in October 1998, October 1999, June 2000, and August 2001. 5/ Miscellaneous programs and provisions vary from year to year.

Source: Economic Research Service, USDA.

Which Farms Receive Government Payments?

According to USDA's latest ARMS survey, 43 percent of all farms received Government payments in 2000. This is not substantially different from 1999, when 41.6 percent of farms reported receiving Government payments. Gross cash income of farms receiving Government payments in 2000 averaged \$118,389--better than twice that of farms not receiving Government payments.

Payments averaged \$26,902 for those operations receiving payments, contributing 14.6 percent of gross cash income to these farms. Only 23.8 percent of limited resource farms received Government payments. Although less than 1 percent of Government payments went to limited resource farms, these payments represented 28.1 percent of those farms' gross cash income. Better than 70 percent of Government payments went to farming occupation/higher sales, large, and very large family farms, with the largest payments going to the very large family farms. About 70 percent of very large family farms received Government payments, but payments represented only 8 percent of gross cash income for these operations.

Looking at the composition of average Government payments received by farms receiving Government payments, flexibility contract payments (AMTA) and loan deficiency payments (LDPs) contributed about 64 percent of the total. Disaster/supplemental assistance payments contributed 21 percent of the total, about the same as in 1999. Disaster payments were more than twice the level of CRP payments in aggregate. However, limited resources and retirement family farms received larger payment from the CRP than from disaster programs. For retirement farms, better than 55 percent of Government payments were CRP payments.

Operations specializing in cotton (over 50 percent of total value of production from cotton) received the highest Government payment (\$53,773) of any crop specialization ([table 7](#)). Regionally, the largest Government payments were realized in the Northern Great Plains and Fruitful Rim regions. Farms in the Heartland and Northern Great Plains regions were most likely to have received payments. Better than 90 percent of cash grain farms and cotton farms and 86 percent of soybean farms received Government payments. For cash grain farms and soybean farms, these payments represented about 24 percent of gross cash income. Although 80 percent of dairy farms received Government payments, payments represented only 5 percent of gross cash income.

Sector Income

Table 7--Distribution of Government payments among farms, 2000

	Distribution of total payments	Percent of all farms	Percent of farms reporting	Percent of reporting farms	Payments as % of gross cash income	Average payments per farm	Average payments per reporting farm
All farms	100	100	43	100	15	7,429	17,258
Economic class:							
\$500,000 or more	22	3	67	4	8	57,192	84,875
\$250,000 to \$499,999	24	4	82	7	17	47,637	58,148
\$100,000 to \$249,999	29	9	79	17	19	22,985	29,184
\$50,000 to \$99,999	12	8	70	14	20	10,758	15,388
\$10,000 to \$49,999	9	20	56	27	20	3,209	5,732
Less than \$10,000	4	55	24	31	30	478	1,981
Farm type:							
Cash grain and soybeans	58	15	91	33	24	27,931	30,681
Cotton	4	1	91	1	17	48,979	53,773
Other crop	14	26	39	23	13	4,165	10,756
Beef	12	37	34	29	10	2,420	7,197
Hog	2	1	58	2	9	14,797	25,586
Dairy	6	4	79	7	5	13,224	16,703
Other livestock	2	16	15	5	*6	1,159	7,881
ERS resource regions:							
Heartland	39	20	72	34	18	14,390	20,042
Northern Crescent	9	14	45	15	10	4,931	10,984
Northern Great Plains	13	5	77	8	18	21,278	27,615
Prairie Gateway	16	13	49	15	15	8,666	17,816
Eastern Uplands	2	16	27	10	9	995	3,744
Southern Seaboard	4	11	26	7	12	2,569	10,060
Fruitful Rim	8	11	19	5	8	4,996	26,150
Basin and Range	3	4	20	2	12	4,864	24,122
Mississippi Portal	6	5	41	5	22	9,618	23,636
Farm typology:							
Limited-resources	1	6	24	3	30	976	4,030
Retirement	3	15	37	13	27	1,482	3,980
Residential/lifestyle	9	42	31	30	20	1,672	5,373
Farming occupation/lower-sales	14	21	52	25	20	4,898	9,493
Farming occupation/higher-sales	25	8	81	15	18	23,467	28,897
Large	23	4	83	7	17	47,804	57,430
Very large	20	3	70	4	9	59,952	85,345
Nonfamily	4	2	46	2	9	15,189	32,788
Net cash farm income:							
\$100,000 or more	30	4	74	7	10	53,062	71,823
\$40,000 to \$99,999	23	7	78	12	16	25,884	33,054
\$10,000 to \$39,999	18	13	65	20	18	10,082	15,443
\$1 to \$9,999	9	21	47	23	22	3,202	6,825
\$0 to -\$9,999	5	40	25	23	22	1,000	4,031
-\$10,000 to -\$39,999	7	13	39	11	20	4,428	11,347
Less than -\$40,000	8	2	58	3	14	23,449	40,341

* indicates that the standard error of the estimate is greater than 25 percent and less than or equal to 50

Source: 2000 USDA Agricultural Resource Management Study.

Form of Government Payments Varies by Farm Typology

While farms in all typology classes receive Government payments, the form of those payments is unevenly distributed across farm types (table 8 and fig. 8). Rural residence farms received less than 14 percent of all Government payments in 2000, but accounted for half of all Conservation Reserve Program payments and 10-12 percent of other program payments. Intermediate farms received about 39 percent of all Government payments, but nearly 45 percent of market loss/disaster payments. Commercial farms receive about 48 percent of all payments, and better than 50 percent of AMTA and LDP payments. Market loss/disaster payments were evenly split between intermediate and commercial farms.

Total Farm Production Expenses

The relatively modest increase in 2001 total farm production expenses, *excluding operator dwellings*, continues the slowing of growth in expenses that began in 1998 (table 9). The 2.1-percent increase in 2000 occurred despite a 29-percent jump in fuel expenses and a 14-percent increase in livestock and poultry purchases. Over the 1998-2001 period, production expenses will have risen only 4.4 percent. In contrast, during the 1993-97 period, expenses rose more than 24 percent.

Forecast 2001 production expenses *including operator dwellings* will be 86 percent of the agricultural sector output. This constitutes a drop from 2000, in which the ratio was 89 percent. This ratio, which reflects the tight operating margins for farmers, was at its second highest level in 1999 and 2000, exceeded only by the 1983 ratio of 97 percent.

Livestock-related expenses

Since cattle and calves comprise nearly 80 percent of livestock and poultry purchases, the situation in the beef business drives this expense. In 2000 and the first three quarters of 2001, the number of cattle on feed will have been at record-high levels even though cattle and calf inventories have reached a very low level, net placements are declining and the marketing of fed cattle has slowed. Consequently, prices paid

for feeder cattle have remained lower than would be expected for such a high level of cattle on feed. Much of the current situation has been caused by the severe weather during the 2000-2001 winter, which moved cattle into feedlots at lower weights rather than retaining them on grazing. Coupled with low feed prices, cattle are being kept on feed longer than usual, especially because of the current premium on Choice grade beef from heavier animals. Livestock and poultry expenses are forecast to decrease 5 percent in 2001 as fewer cattle and calves are placed into feedlots. Poultry production continues its rise in 2001 but is not big enough to overcome the decline in cattle purchases. The 14.3-percent rise in 2000 was largely due to the movement of cattle to feedlots.

The expected 4.3-percent increase in feed expenses is driven by feed prices. Fourth-quarter cattle on feed numbers are projected to drop, in contrast to their usual rise from the third quarter. Pork, broiler, and egg production are all expected to increase 1 percent, and turkey production is forecast up 4 percent. Both grain-consuming animal units and feed consumption are forecast to be up less than 1 percent. Feed prices, however, through the first 7 months of 2001 are 6 percent above the same period in 2000, led by a 12.5-percent increase in hay prices. Feed expenses in 2000 were nearly identical to 1999 as the beef, hogs, and poultry sectors all expanded production, milk production fell marginally, and feed prices rose 1.4 percent.

Crop-related expenses

The major crop-related expenses--seed, fertilizer, and pesticides--are forecast to be \$27.9 billion, 7.9 percent above 2000. In 2001, one of the major factors in crop expenses, total area planted, currently stands down 0.2 percent relative to 2000, which had been almost exactly the same as in 1999.

Farm operators in 2000 largely escaped the effects of the spike in the price of natural gas, the primary ingredient in nitrogen fertilizer prices, but 2001 fertilizer expenses are currently forecast up 16.7 percent as higher prices offset lower acreage. As of July 2001, fertilizer prices had risen 24.2 percent over the same period last year, led by a 155-percent increase in nitrogen prices. Nitrogen prices have been falling, though, since they peaked in March, so

Sector Income

Table 8--Program participation, average Government payment, and payments contribution to farm income by program and farm typology, 2000

	48-State total	Rural residence	Intermediate	Commercial
All farms	2,166,060	1,363,803	624,418	177,840
Average gross cash income (\$)	77,128	12,671	71,815	590,087
Average Government payments (\$)	7,429	1,560	10,008	43,379
Farms receiving Government payments	932,400	434,870	373,082	124,448
Percent of all farms (%)	43.0	31.9	59.7	70.0
Average gross cash income (\$)	118,389	22,699	88,888	541,207
Average Government payments (\$)	17,258	4,894	16,750	61,990
Percent of gross cash income (%)	14.6	21.6	18.8	11.5
Average AMTA payments (\$)	5,062	1,024	4,864	19,764
Average loan deficiency payments (\$)	5,919	1,317	5,597	22,961
Average CRP payments (\$)	1,261	1,338	982	1,831
Average market loss or disaster payments (\$)	3,561	819	3,926	12,049
Average other payments (\$)	1,455	395	1,380	5,387
Farms receiving AMTA payments	474,803	159,741	226,394	88,668
Percent of all farms (%)	21.9	11.7	36.3	49.9
Average gross cash income (\$)	158,837	33,681	103,301	526,114
Average Government payments (\$)	26,902	7,711	22,133	73,653
Percent of gross cash income (%)	16.9	22.9	21.4	14.0
Average AMTA payments (\$)	9,940	2,788	8,016	27,739
Percent of Government payments (%)	36.9	36.2	36.2	37.7
Farms receiving loan deficiency payments	463,922	133,057	237,032	93,833
Percent of all farms (%)	21.4	9.8	38.0	52.8
Average gross cash income (\$)	172,165	41,066	103,831	530,684
Average Government payments (\$)	28,825	9,442	21,864	73,893
Percent of gross cash income (%)	16.7	23.0	21.1	13.9
Average loan deficiency payments (\$)	11,895	4,305	8,810	30,452
Percent of Government payments (%)	41.3	45.6	40.3	41.2
Farms receiving CRP payments	234,083	145,575	61,292	27,216
Percent of all farms (%)	10.8	10.7	9.8	15.3
Average gross cash income (\$)	85,007	14,323	88,128	456,056
Average Government payments (\$)	17,946	5,756	24,848	67,602
Percent of gross cash income (%)	21.1	40.2	28.2	14.8
Average CRP payments (\$)	5,024	3,996	5,979	8,371
Percent of Government payments (%)	28.0	69.4	24.1	12.4
Farms receiving market loss or disaster payments	449,043	166,966	213,089	68,988
Percent of all farms (%)	20.7	12.2	34.1	38.8
Average gross cash income (\$)	135,388	28,715	95,501	516,760
Average Government payments (\$)	21,429	5,623	18,803	67,794
Percent of gross cash income (%)	15.8	19.6	19.7	13.1
Average market loss or disaster payments (\$)	7,395	2,134	6,874	21,734
Percent of Government payments (%)	34.5	38.0	36.6	32.1
Farms receiving other payments 1/	314,122	115,363	141,308	57,452
Percent of all farms (%)	14.5	8.5	22.6	32.3
Average gross cash income (\$)	148,712	33,245	100,733	498,576
Average Government payments (\$)	23,928	7,193	20,450	66,083
Percent of gross cash income (%)	16.1	21.6	20.3	13.3
Average other payments (\$)	4,320	1,489	3,644	11,668
Percent of Government payments (%)	18.1	20.7	17.8	17.7
Farms receiving no Government payments	1,233,661	928,933	251,336	53,392
Percent of all farms (%)	57.0	68.1	40.3	30.0
Average gross cash income (\$)	52,587	9,425	48,905	711,665

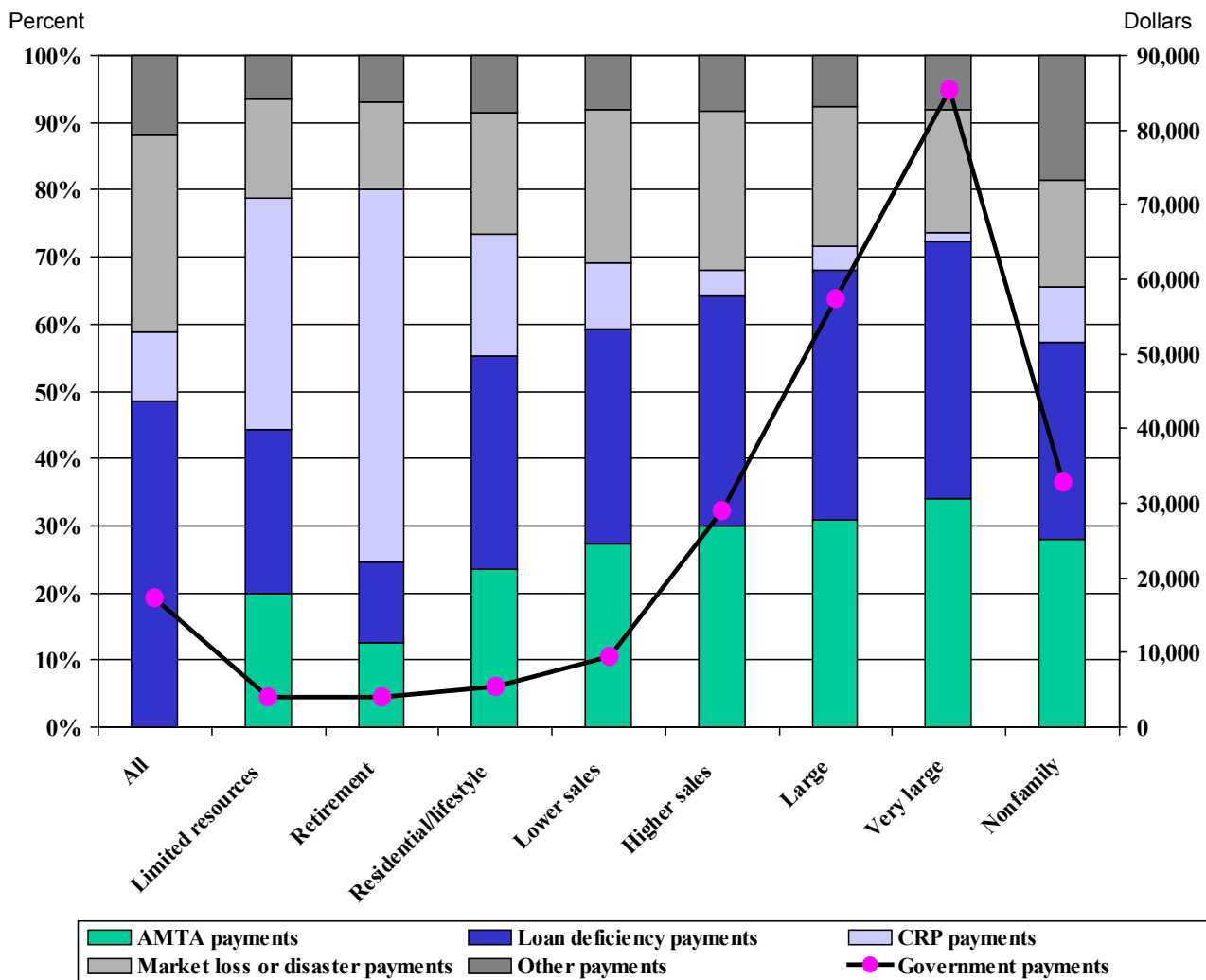
1/ Includes EQIP, WRP, and other Federal and State program payments.

Source: 2000 USDA Agricultural Resource Management Study.

Sector Income

Figure 8

Composition of Government payments and mean Government payment for farms receiving payments, 2000



Source: 2000 ARMS, USDA.

Sector Income

the annual increase will likely be less. Other factors could change the size of the increase as well. Planted acreage for corn and wheat, which account for 85 percent of the nitrogen applied, are both down 3.6 percent and the projected use of herbicides is down 2.8 percent. Phosphate and potash use are also projected down 1.8 and 2.3 percent, respectively, because of the planted crop mix. Agricultural chemical prices are forecast up only 1 percent this year.

Crop-related expenses are becoming more difficult to explain and predict because the ability and manner of farm behavioral adaptation to cost changes varies across an increasingly diverse farm sector. Some farmers are adopting new practices that require fewer inputs or are economizing by using less of these inputs because of low grain prices. Examples of the adoption of new technologies and management practices include conservation tillage, precision farming, and Integrated Pest Management. Since 1989, the number of acres using conservation tillage has risen 51 percent. It is now used on 109 million acres, which constitutes 37 percent of planted acreage. Aside from environmental pluses, its economic advantages include less need for fuel and labor and less wear on machinery, which offsets a greater need for herbicides. Pesticide application rates vary according to factors such as weather and pest threat in addition to prices. Also, freed from Federal program base acreage requirements, producers are employing more crop rotations, which alters the mix of crops grown each year. Together, these trends and policy events act to increase the variability of year-to-year input use levels.

Other intermediate expenses

Fuel expenses in 2001 are forecast to fall 1.9 percent, primarily due to an anticipated 1.4-percent drop in fuel prices. In 2000, Refiner's Acquisition Cost,

which is the price of imported oil, rose 61 percent and the price for West Texas Intermediate Crude oil, the benchmark for U.S. oil, rose 53 percent. In 2001, quarterly prices for these inputs are all down from the same quarter last year and the annual average price is down between 7 to 9 percent.

Capital consumption

Capital consumption, which measures the cost of capital used in the production of commodities during one year, has had a steady increase of at least 1 percent per year from 1993-2000. Since capital consumption is derived at replacement cost, the primary factor driving this expense is the prices paid for vehicles, machinery and building construction. A large used inventory of tractors and machinery had restrained price increases for these assets.

Factor payments

Factor payments, which are the returns that nonoperators receive for the land, labor, and capital they contribute to the production of agricultural commodities, are forecast to rise 1.8 percent in 2001, which is comparable to 2000, when factor payments rose 1.9 percent.

Hired labor expenses are forecast to rise 4.7 percent in 2001, after falling 1 percent in 2000. Unlike in 2000, an easing labor market in 2001 should make it somewhat easier for operators to obtain the laborers they need.

Interest expenses have been gradually increasing since 1993, but real estate interest expenses remain \$3.6 billion below their 1983 peak and nonreal estate expenses are \$4.5 billion lower than their 1982 peak. With lower interest rates and the smallest increase in end-of-year real estate debt since 1993, real estate interest is forecast to rise just over 1 percent this year.

Sector Income

Table 9--Value added to the U.S. economy by the agricultural sector via the production of goods and services, 1997-2001F

Item	1997	1998	1999	2000	2001F	1990-2000 average
\$ billion						
Final crop output	112.3	101.5	93.2	95.3	97.3	95.4
Food grains	10.4	8.8	7.0	6.6	6.7	8.6
Feed crops	27.1	22.7	19.6	20.0	21.4	21.8
Cotton	6.3	6.1	4.7	4.6	4.0	5.8
Oil crops	19.7	17.4	13.6	13.9	14.8	14.8
Tobacco	2.9	2.8	2.3	2.3	1.8	2.7
Fruits and tree nuts	13.1	11.6	12.3	12.7	13.4	11.2
Vegetables	14.7	15.2	15.2	15.9	16.2	13.9
All other crops	16.9	17.2	17.9	18.2	18.7	15.4
Home consumption	0.1	0.1	0.1	0.1	0.1	0.1
Value of inventory adjustment 1/	1.0	-0.3	0.4	1.0	0.2	1.1
Final animal output	96.5	94.2	95.3	99.3	108.9	92.0
Meat animals	49.7	43.3	45.6	53.0	55.0	47.9
Dairy products	20.9	24.1	23.2	20.6	25.3	20.8
Poultry and eggs	22.3	22.9	22.9	21.8	24.2	19.4
Miscellaneous livestock	3.6	3.7	3.8	4.1	4.1	3.3
Home consumption	0.4	0.3	0.4	0.4	0.4	0.4
Value of inventory adjustment 1/	-0.4	-0.3	-0.6	-0.6	0.0	0.2
Services and forestry	22.2	23.7	25.4	24.0	24.3	19.7
Machine hire and customwork	2.4	2.2	2.0	2.2	2.2	2.0
Forest products sold	2.9	3.1	2.7	2.8	2.8	2.5
Other farm income	6.9	8.7	10.2	8.7	8.8	6.2
Gross imputed rental value of farm dwellings	10.1	9.8	10.4	10.4	10.5	9.0
Final agricultural sector output	231.0	219.5	213.8	218.6	230.6	207.1
less: Intermediate consumption outlays	121.0	118.6	119.6	122.4	127.2	108.3
Farm origin	46.9	44.8	45.6	47.7	48.6	42.6
Feed purchased	26.3	25.0	24.5	24.5	25.6	23.0
Livestock and poultry purchased	13.8	12.6	13.8	15.8	15.4	13.7
Seed purchased	6.7	7.2	7.2	7.3	7.5	5.9
Manufactured inputs	29.2	28.2	27.1	28.7	30.8	25.8
Fertilizers and lime	10.9	10.6	9.9	10.0	11.8	9.6
Pesticides	9.0	9.0	8.6	8.5	8.5	7.6
Petroleum fuel and oils	6.2	5.6	5.6	7.2	7.3	5.8
Electricity	3.0	2.9	3.0	3.0	3.2	2.8
Other intermediate expenses	44.9	45.6	46.9	46.0	47.7	39.9
Repair and maintenance of capital items	10.4	10.4	10.5	10.8	11.2	9.6
Machine hire and customwork	4.9	5.4	5.3	5.0	5.2	4.6
Marketing, storage, and transportation	7.1	6.9	7.3	7.5	7.8	6.3
Contract labor	2.5	2.4	2.5	2.7	2.8	2.1
Miscellaneous expenses	19.9	20.6	21.4	20.0	20.7	17.4
plus: Net government transactions	0.1	4.9	14.2	15.5	12.5	4.6
+ Direct Government payments 2/	7.5	12.4	21.5	22.9	20.0	11.5
- Vehicle registration and licensing fees	0.5	0.5	0.4	0.5	0.5	0.4
- Property taxes	7.0	7.0	6.8	6.9	7.0	6.5
Gross value added	110.1	105.7	108.4	111.7	115.9	103.5
less: Capital consumption	19.6	20.0	20.3	20.6	20.7	19.1
Net value added	90.5	85.8	88.1	91.1	95.1	84.3
less: Factor payments	42.0	42.9	43.8	44.7	45.8	39.0
Employee compensation (total hired labor)	16.0	16.9	17.5	17.3	18.1	14.6
Net rent received by nonoperator landlords	12.9	12.7	12.8	13.2	13.4	11.8
Real estate and nonreal estate interest	13.1	13.4	13.6	14.1	14.2	12.6
Net farm income	48.5	42.9	44.3	46.4	49.4	45.3

F = forecast. Numbers may not add due to rounding. 1/ A positive value of inventory change represents current-year production not sold by December 1.

A negative value is an offset to production from prior years included in current-year sales. 2/ Direct Government payments include only payments made directly to farmers, including realized marketing loan gains. In publications prior to May of 2001, marketing loan gains were included in cash receipts rather than in Government payments.

Source: Economic Research Service, USDA.

Farm Sector Assets and Equity

Farm business sector assets, debt, and equity values continue to rise modestly despite lower commodity prices, flat to declining returns, and increasing market risk and uncertainty. They reflect farm investors' and lenders' collective decisions and expectations about the relative profitability of farm and nonfarm sector investments.

U.S. farm business sector assets are forecast to reach nearly \$1.2 trillion this year, up from last year's \$1.1 trillion. The value of farm real estate, the largest share of the sector's assets, is expected to increase by 3 percent, compared with 4.1 percent in 2000. Farm business debt is expected to grow only 1 percent this year, implying continued rising sector net worth (equity). On average, asset values grew nearly 4 percent annually during the 1990s (fig. 9).

Farm business balance sheets have steadily improved throughout the 1990s, especially since 1992. Debt-to-asset ratios have improved as increases in debt have been more than offset by larger increases in the value of assets. As a result, the degree of farmland leverage has declined. This has provided farm investors with an added equity cushion to lessen the impact of any short-term declines in income or asset values.

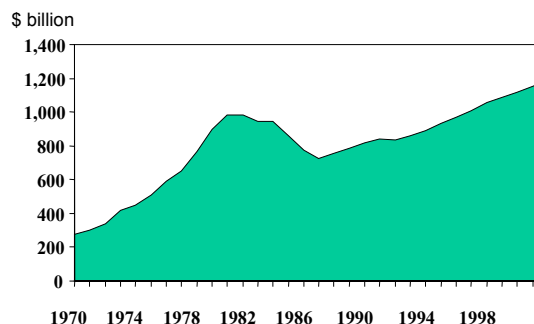
Farmland Values

The value of farm real estate increased 4.1 percent in 2000 and is expected to increase by an average of 3 percent in 2001. Demand for land for urbanization and recreational purposes, favorable mortgage interest rates, and farm program payments are supporting farmland values.

However, there is considerable variation in the growth of farmland prices across the country. This reflects a variety of factors, including differences in land quality and location, credit conditions, non-farm investment opportunities, Government farm policies, and risks and uncertainties unique to each region (e.g., weather and other unanticipated shocks to the region's agriculture).

Evidence of these regional differences and trends is provided by a variety of sources, including information from the ARMS survey and farmland

Figure 9
U.S. farm assets



Source: Economic Research Service, USDA.

survey data from the Federal Reserve System's Chicago, Kansas City, Dallas and Minneapolis Districts.

Continued demand for agricultural land near urban areas and demand for rural land for recreational purposes is contributing to the growth in real estate values. Farmland prices are expected to rise more than 3 percent in 2001 in some areas of the Midwest, but increases may be smaller in the less urbanized Upper Midwest.

Agricultural bankers surveyed by the Chicago Federal Reserve Bank (including Iowa, and parts of Illinois, Indiana, Michigan, and Wisconsin) report considerable disparities in farmland values across these States. For the year ended June 30, 2001, annual farmland price gains were strongest in Wisconsin, Indiana, and Illinois (up 5 percent or more) and weakest in Michigan (no change). With crop prices relatively low and future prices expected to rise significantly, the region's rents are stabilizing and farmland values are anticipated to rise only moderately this year.

Besides geographical variation, there is obvious variation by land use. Agricultural bankers in the Dallas Federal Reserve Bank District estimate that the price of non-irrigated cropland rose by about 4.1 percent between July 2000 and July 2001 while the price of irrigated cropland rose by about 4.5 percent. The price of rangeland rose by 9.9. Land prices have fallen slightly of late, reflecting not only current low commodity prices but also slowdowns in the general economy (particularly in the technology sector). However, farmland prices in some parts of Texas are being supported by growth in the energy sector.

Farm Assets Outlook

Rangeland prices are stabilizing as the demand for hunting and recreational land is moderating.

In the West, water has always been a key factor affecting the value of land. The recent rising price of fertilizer, energy, water, and other inputs could lower net returns to farming and moderate increases in farmland values in these areas.

Traditional commodities grown also have an effect on land prices. Farms in the Kansas City Federal Reserve District (Kansas, Nebraska, Oklahoma, Colorado, Wyoming, and parts of Missouri and New Mexico) include a variety of farm types. These primarily include wheat, sorghum, and corn farms (all program crops) as well as cattle and sheep ranches. Bankers in the Kansas City District estimate prices for nonirrigated farmland will increase by 3.4 percent in 2001, by 3.1 percent for irrigated land, by 6.3 percent for ranchland, and by 3.2 percent overall.

Government Payments: Higher Income Means Higher Land Values

Government payments contribute to farm income and, since the value of agricultural land depends largely on its expected future earnings from farming, indirectly support farmland values. Payments are generally attached to the land, and the rights to receive payments are transferred with ownership of the land. Current landowners capture most of the expected future benefits in the form of higher land values.

The bidding of Government payments into higher rents and land values is an inexact process. Some payment benefits do accrue to tenants and sharecroppers, as well as to the merchants providing seed, fertilizer, machinery, and other inputs used in the production process. Indirect additional benefits accrue, as local economic multipliers create ripple effects throughout the rural community, and lenders benefit from the improved repayment capacity of farm borrowers and reduced risk on farm loan portfolios.

The impact of Government payments on farmland values has been illustrated in recent ERS research using an income capitalization modeling approach. Application of this procedure suggests that farmland values nationally, in the absence of Government

payments, would have been about 4 percent lower during 1972-1981 and about 19 percent lower during 1982-1989. This disparity decreased to about 13 percent during 1990-1997, and, in the absence of Government payments, land values could be about 25 percent lower during 1999-2001.

Nonreal Estate Values

Nonreal estate values are expected to increase about \$ 5.8 billion (2.3 percent) in 2001. The value of livestock and poultry inventories, machinery and equipment, purchased inputs, and financial assets are all expected to rise slightly, whereas crop inventories are expected to remain unchanged. The value of livestock and poultry inventories is rising primarily because the value of cattle inventories is increasing, as the rise in cattle prices more than offsets the decline in the number of cattle. Machinery and equipment values are also rising slowly as net investment in machinery and equipment is above 2000 levels.

Farm Sector Equity

Farm sector equity or “net worth” is the value of farm business assets minus farm business debt. Equity therefore represents the residual claims on assets held by the firm’s proprietor, partners, or stockholders after accounting for all debt claims. Farm business equity is expected to continue rising in 2001 as farm asset values rise more rapidly than farm debt. In current dollars, sector net worth is estimated to be about \$1,003.9 billion, up almost \$31.3 billion over 2000. Data from the 1999 *Agricultural Economics and Land Ownership Survey* indicate that about a third of the \$31.3-billion increase in equity (about \$10.4 billion) will accrue to non-operator landlords, with the other two-thirds (about \$20.9 billion) attributable to farm operators.

Average equity per farm in the United States increased from under \$40,000 in 1960 to over \$435,000 in 2000. Several factors contributed to this increase in average equity per farm, including rising land values and increasing farm size.

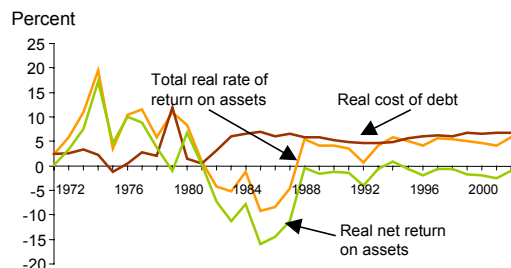
Key Financial Ratios

Indicators measuring the financial well being of the farm sector as a whole suggest a fairly robust sector for both 2000 and 2001 (table 5). The debt-to-asset ratio indicates the relative dependence of farm businesses on debt and their ability to use additional credit without impairing risk-bearing ability. The lower the debt-to-asset ratio, the greater the overall financial solvency of the sector. The debt-to-asset ratio is forecast at 15.9 percent in 2000 and 15.6 percent in 2001. This ratio has been declining steadily in the 1990s and has declined markedly from 1985, when the debt-to-asset ratio was 23 percent.

The net real return on farm assets is a measure of profitability that includes the real capital gains component of total returns (total real return on farm assets minus the real cost of debt). As the total real return on assets has been rising faster than the real cost of debt, the net real return on assets has been rising from negative values since 1984 (figs. 10 and 11).

Figure 10

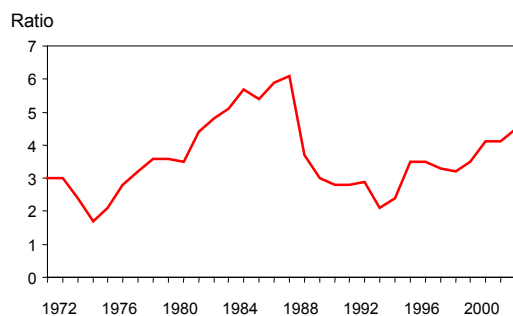
Rates of return on assets and real cost of debt



Source: Economic Research Service, USDA.

Figure 11

Debt-to-net cash flow



Source: Economic Research Service, USDA.

Land Use, Location, and Tenure Drive Values

The 3-percent expected rise in U.S. farmland prices affects different farmers and ranchers depending on their location, the type of land owned, and the tenure of the operators. In the Dallas Federal Reserve District, for example, irrigated cropland prices increased in 2000 by 7.8 percent, while nonirrigated cropland rose 4.1 percent in value. The price of rangeland rose by just under 10 percent.

Crop producers can own and/or rent land and the rented land can be owned by other producers or by nonoperators. According to USDA's 2000 Agricultural Resource and Management Study survey of U.S. farm and ranch operators, about 54 percent of land was owned while 46 percent was rented. This, of course, varies across regions and size of operation:

- 57.6 percent of U.S. farms were fully owned by the operator, while 7.6 percent of U.S. farms were fully rented (the remaining operations had a mix of owned and rented land);
- Among farms with sales over \$50,000 only 23.2 percent of farms were fully owned, while 14.1 percent were fully rented;
- The Heartland and Eastern Uplands regions had the most full owners; the Heartland and Prairie Gateway, the most full renters;
- Full ownership was more common on smaller farms than larger ones.

Farm Debt Outlook

Farm Debt Expected Up 1%

Farm business debt is expected to rise about 1 percent in 2001, marking 9 consecutive years of growing farm debt balances. The \$185.2 billion in debt outstanding at the end of 2001 will be within 5 percent of 1984's record level of \$193.8 billion (table 10). The anticipated moderate increase in outstanding loan balances in 2001 would follow debt growth of \$7.2 billion (4.1 percent) in 2000 and \$3.6 billion (2.1 percent) in 1999. These increases were typical of the 1993-2000 farm debt expansion, when year-end loan balances grew at an annualized rate of 3.5 percent. Debt growth peaked at \$9.3 billion (6 percent) in 1997 and \$7.5 billion (4.5 percent) in 1998, the largest consecutive annual increases since 1980.

While cash receipts are anticipated to rise in 2001, reduced assistance from the Federal Government and rising fertilizer and fuel expenditures reduce cash flows available to many farmers to meet their current debt service needs. Financial conditions are anticipated to improve in the livestock sector, but deteriorate for crop producers.

The strong financial condition of most of the agricultural lenders suggests that, overall, farmers were able to meet debt obligations in 1998-2000. Supplemental funding from Government emergency assistance payments contributed to farmers' ability to service debt. If lenders expect that additional Government payments will be made to cover cash needs for another year's loan payments, they may exercise restraint in taking action against delinquent borrowers.

The prospect of prices for many commodities rising only modestly from 2000 levels, coupled with uncertainty surrounding continuing Government emergency assistance, has led many in the agricultural finance community to express concern that repayment problems may surface in the future. Indebted farm operators are expected to apply any surplus cash included in recent assistance packages to improve their balance sheets, reducing debt to limit financial exposure to future economic adversity.

The relative strength of 2000 farmland prices and farm rental rates, coupled with the 4.5-percent rise in debt, supports the contention that farmers and lenders

Table 10—Debt outstanding, by lender, December 31, selected years, 1984-2001F

Lender	1984	1988	1992	1996	1999	2000	2001F
	\$ million						
Real estate	106,697	77,833	75,421	81,657	94,226	97,616	98,929
Farm Credit System	46,596	28,445	25,408	25,730	30,302	31,765	32,233
Farm Service Agency	9,523	8,980	6,394	4,702	3,872	3,557	3,276
Life insurance companies	11,891	9,039	8,765	9,468	11,490	11,806	12,089
Commercial banks	9,626	14,434	18,757	23,276	29,799	31,821	32,757
Individuals and others 1/	29,106	16,935	16,097	18,481	18,763	18,668	18,574
Nonreal estate	87,091	61,734	63,631	74,417	82,205	86,005	86,320
Commercial banks	37,619	28,309	32,912	38,344	41,993	44,555	44,650
Farm Credit System	18,092	8,766	10,346	14,015	15,916	16,704	16,512
Farm Service Agency	13,740	12,899	10,346	4,614	4,011	3,872	3,696
Individuals and others	17,640	11,760	13,230	17,444	20,286	20,874	21,462
Total farm business debt	193,788	139,567	139,052	156,074	176,431	183,621	185,249
Farm Credit System	64,688	37,211	35,753	39,745	46,218	48,469	48,745
Farm Service Agency	23,263	21,879	13,538	9,316	7,883	7,429	6,972
Commercial banks	47,245	42,742	51,669	61,620	71,792	76,376	77,407
Life insurance companies	11,891	9,039	8,765	9,468	11,490	11,806	12,089
Individuals and others 1/	46,701	28,694	29,327	35,925	39,049	39,542	40,036

F = forecast.

1/ Prior to 1993, includes Commodity Credit Corporation storage and drying facility loans.

Source: Economic Research Service, USDA.

are relatively confident that Government payments will be made available to farmers for the foreseeable future. While uncertainty concerning the future of Government payments is reflected in our farm income forecasting models, it is not as evident in the actions of farmers and lenders ([table 11](#)).

Farmers' Use of Repayment Capacity Expected to Fall in 2001

While the rise in debt in recent years may result in additional financial difficulty for some farm operators, it does not indicate widespread financial distress in the farm sector. Viewed from the farm sector level, farm operators are expected to reduce use of their available credit lines in 2001. Lenders generally require that no more than 80 percent of a loan applicant's available income be used for repayment of principal and interest on loans. For farm operators, this income available for debt service (measured as net cash income plus interest for the farm sector) can be used to determine the maximum

amount of loan payment the farmer could make. Given current market interest rates and an established repayment period, the maximum debt that the farmer could carry with this loan payment can be determined. Using current bank interest rates and a 7-year repayment period, maximum feasible debt conceptually measures the line of credit that could be available to farmers.

Debt repayment capacity utilization (DRCU), computed as actual debt relative to maximum feasible debt, effectively measures the extent to which farmers are using their available lines of credit. This ratio indicates that, in 2001, farmers are expected to use almost 57 percent of the debt that could be supported by their current incomes. An improvement in the overall ability of the farm sector to service debt is indicated by the decline in DRCU from almost 60 percent in 2000. As previously noted, many farm businesses, especially those producing crops, may experience additional difficulty in meeting 2001 debt service obligations.

Farm Debt Outlook

Table 11--Farm financial characteristics, by farm typology, 2000

Item	Rural residence	Intermediate	Commercial	48-State total
Number of farms with debt	470,070	322,791	100,696	893,557
Percent of farms with debt	34.5	51.7	75.6	42.1
Distribution of value of production	10.2	27.8	62.1	100
Income measures				
Gross cash income from farming	12,671	71,815	613,617	67,829
Net cash farm income	*-1,828	11,784	141,381	11,175
Net farm income	*1,337	12,311	107,344	11,227
Total household income	63,560	44,191	118,450	61,307
Off-farm income	68,197	42,492	37,587	58,709
Balance sheet measures				
Total farm assets	318,080	629,678	1,905,385	509,505
Total farm liabilities	21,791	63,425	333,914	53,652
Farm Net worth	296,289	566,253	1,571,472	455,853
Non farm assets	126,955	91,401	138,342	117,206
Nonfarm debt	25,762	17,769	34,233	23,941
Nonfarm net worth	101,194	73,632	104,109	93,265
Total household assets	445,036	721,079	2,043,728	626,711
Total household debt	47,553	81,194	368,147	77,593
Total household net worth	397,483	639,886	1,675,581	549,117
Profitability measure				
Return on assets (percent)	-2.2	-1.4	4.3	*-0.40
Distribution of households by net worth				
Less than \$100,000	15.4	6.0	3.3	11.9
\$100,000-\$500,000	59.9	50.8	21.0	54.8
More than \$500,000	24.7	43.3	75.7	33.4
Debt repayment capacity utilization (percent)	51.9	47.1	40.2	45.1
Number with DRCU > 1.2	290,053	145,145	29,091	464,289
Percent of all farms	21.3	23.2	21.8	21.9
Percent of farms with debt	61.7	45.0	28.9	52.0
Percent of debt	69.1	55.9	41.2	53.6
Operator government payments (mil\$)	2,128	6,249	7,038	15,415
Distribution of government payments				
Total government payments	13.8	40.5	45.7	100
Conservation program payments	49.9	33.3	16.8	100
Disaster payments/market loss	11.1	45.6	43.3	100
LDP	10.8	39.2	50.0	100
AMTA	9.8	40.1	50.1	100

1/ All 48 contiguous States, excluding 44,572 nonfamily farms. Coefficient of Variation = (Standard Error/Estimate)*100.

* indicates that CV is greater than 25 and less than or equal to 50.

Source: 2000 USDA Agricultural Resource Management Study.

Costs of Production

Aggregate prices paid for farm production inputs were up about 5 percent from 1999 to 2000, spurred mainly by much higher fuel and feeder livestock prices. Crop prices remained at low levels in both 1999 and 2000 as yields for most major field crops were strong in both years. The combination of low crop prices and a sharp increase in fuel prices caused net returns to remain low for many field crops. With low feed prices offset by higher hog and cattle prices, returns to hog and cattle production rose in 2000, particularly among feeder pig and feeder cattle producers. However, lower milk prices held down returns on dairy operations.

Rising Energy Prices

Higher energy prices had a significant impact on farm production costs in 2000. Indices of aggregate prices for farm production inputs showed fuel prices increased about 45 percent between 1999 and 2000. Rising energy prices not only impact production costs directly through the farm price paid for fuels, but also indirectly through their impact on the costs of other inputs. For example, natural gas is the major cost component in anhydrous ammonia production, accounting for 75-90 percent of production costs. Anhydrous ammonia is a leading source of nitrogen fertilizer for many field crops. Thus farmers also feel an indirect affect of rising energy prices by paying more for nitrogen fertilizers. However, farmers did not feel the impact of higher energy prices on fertilizer costs until 2001. Indices of aggregate fertilizer prices through the first half of 2001 are up by more than 20 percent from 2000.

Looking at 4 major field crops, the direct effect of rising energy prices appears in higher fuel costs in 2000, while the indirect effect results in a higher fertilizer cost forecast for 2001 (table 12). In total, rising energy prices are estimated to raise the production costs for fuels and fertilizers by about 30-35 percent between 1999 and 2001. However, the implications of rising energy prices vary by commodity depending upon how much of total production costs are energy-related inputs (fig. 12). Energy-related inputs comprise 40 percent or more of corn and wheat operating costs, but only 21 percent for soybean production because little nitrogen fertilizer is used. Higher costs for energy-related inputs likely contributed to why less acreage was

Table 12--Costs of energy-related inputs used on major field crops 1/

Commodity/Item	1999	2000	2001F
Dollars per acre			
Corn			
Fertilizer	38.75	39.04	49.97
Fuel, lubrication, & electricity	23.04	29.12	29.41
Total energy-input cost	61.79	68.16	79.38
Soybeans			
Fertilizer	7.96	7.87	10.07
Fuel, lubrication, & electricity	5.90	8.60	8.69
Total energy-input cost	13.86	16.47	18.76
Wheat			
Fertilizer	16.95	17.28	19.87
Fuel, lubrication, & electricity	6.53	9.13	11.23
Total energy-input cost	23.48	26.41	31.10
Cotton			
Fertilizer	29.91	31.32	40.09
Fuel, lubrication, & electricity	26.64	36.97	37.34
Total energy-input cost	56.55	68.29	77.43

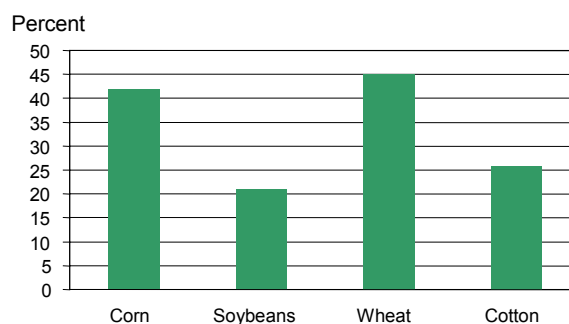
1/ Fertilizer and fuel, lubrication, and electricity are the primary energy-related inputs. Costs of other inputs, such as chemicals, custom operations, and purchased water, would to a lesser extent also be impacted by changes in energy prices.

2/ Forecasts for 2001 were computed by indexing the 2000 costs by changes in prices paid indices for fertilizer and fuel between 2000 and 2001 (NASS Agricultural Prices, July 2001). The average of price indices for March, April, and May in 2000 and 2001 were used to forecast the energy-input costs for corn, soybeans, cotton, and spring wheat. The average of price indices for August, September, and October in 1999 and 2000 were used to forecast the energy-input costs for winter wheat. Total wheat costs were estimated using 70 percent winter wheat acreage and 30 percent spring wheat acreage (NASS Crop Production, Jan. 2001).

Source: Economic Research Service, USDA.

Figure 12

Energy input costs as a percent of total operating costs, 2000 1/



1/ Energy-input costs are costs for fertilizers and fuels.

Source: Economic Research Service, USDA.

Costs of Production

planted to corn and other feed grains in 2001 and more acreage was planted to soybeans.

Low Crop Prices

Along with higher energy costs, the low crop prices that have characterized farm product markets since 1998 continued to hold down returns in 2000 (excluding Government payments). Low prices meant that for the third consecutive year producers had a strong incentive to utilize the marketing loan program, and payments from this program were significant. Marketing loan program payments for major field crops illustrate this situation (fig. 13). Corn, soybean, and wheat producers received an average of 26, 91, and 38 cents per bushel, respectively, from loan deficiency payments and marketing loan gains in 2000. This amounts to about 14 percent of the marketing-year average price received by corn and wheat producers, and nearly 20 percent of the average price for soybeans. Cotton producers received an average of 5 cents per pound from the marketing loan program in 2000, about 9 percent of the marketing-year average price for upland cotton.

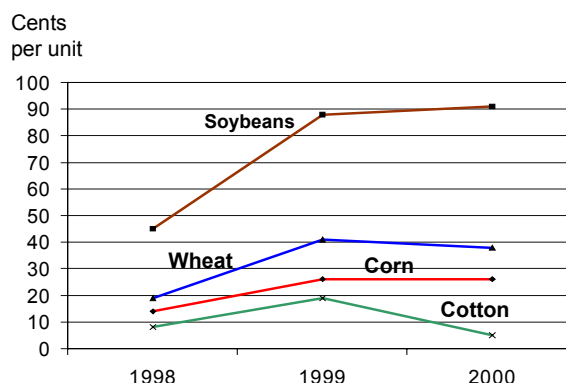
Cost and Return Highlights for Crops

Another year of high yields and low prices kept down returns to corn production in 2000 (appendix table 8). The harvest-period price rose to \$1.77 per bushel in 2000 and the marketing-year average price for corn was up to \$1.85, but both remained below the corn loan rate of \$1.89 per bushel¹. Operating costs for corn production were up about 5 percent between 1999 and 2000, spurred mainly by fuel costs that increased more than 25 percent. Overall, the returns to corn production changed little between 1999 and 2000. Most producers were able to cover operating costs as the average break-even price was \$1.15 per bushel, but the average breakeven on total costs was \$2.70.

Average returns above operating costs in all regions were positive for both 1999 and 2000, but regional

¹ Harvest-period prices are used in commodity costs and returns accounts rather than marketing-year prices because the accounts do not include marketing and storage costs that would have been incurred to hold the crop past harvest.

Figure 13
Marketing loan program payments per unit of production



Source: Marketing loan program payments are the sum of loan deficiency payments and marketing loan gains in each year as reported by the Farm Service Agency, divided by total crop production from the National Agricultural Statistics Service. Corn, soybeans, and wheat payments are measured in cents per bushel and cotton payments are measured in cents per pound.

differences in corn yields affected how returns differed in 1999 and 2000. Returns to corn production improved significantly in the Eastern Uplands and Southern Seaboard regions as yields were up by about 30 percent in each region. Strong yields also improved corn returns in the Heartland and Northern Crescent regions from 1999 to 2000. However, lower corn yields reduced returns in the Northern Great Plains and Prairie Gateway regions.

Soybean yields in 2000 remained steady at 1999 levels, while low prices continued to keep down returns in 2000 (appendix table 9). The soybean harvest-period price was \$4.45 per bushel while the marketing-year average price was \$4.75, the lowest levels since the mid-1970s and considerably below the loan rate of \$5.26 per bushel. Operating costs for soybean production changed little between 1999 and 2000 as higher fuel costs were mostly offset by lower chemical costs. Costs for chemicals, the major component of soybean operating costs, fell by about 10 percent in 2000. Prices for glyphosate and trifluralin, major soybean herbicides, continued their downward trend. National break-even prices for soybeans in 2000 were \$1.88 per bushel for operating costs and \$6.19 for total costs. At soybean prices in 2000, most producers covered operating costs, but few covered total costs.

Average returns to operating costs were positive in all regions in both 1999 and 2000, but varied by region in each year. Returns to soybean production improved

Costs of Production

significantly between 1999 and 2000 in the Eastern Uplands and Southern Seaboard regions as yields rose 12 bushels per acre--around 50 percent--in each region. In contrast, returns declined the most in the Prairie Gateway region as yields fell by 11 bushels per acre. Strong yields and steady prices improved returns among Heartland producers.

Like other major field crops, **wheat** prices remained low in 2000, holding down returns to wheat production ([appendix table 10](#)). The harvest-period price of \$2.46 per bushel and marketing-year average price of \$2.65 were considerably below the prices received in 1996 and 1997, but close to the loan rate of \$2.58 per bushel. Wheat operating costs were up 6 percent between 1999 and 2000, due mainly to fuel costs that were nearly 40 percent higher. National returns above operating costs fell about 15 percent between 1999 and 2000. Most producers were able to cover operating costs as the average break-even price was \$1.70 per bushel.

Returns to wheat production varied significantly by region, due mainly to differences in wheat yields and the value of wheat straw. Returns continued to be the highest in the Northern Crescent region, where relatively high yields and a strong market for wheat straw resulted in returns above operating costs of about \$120 per acre. Returns were lowest in the Southern Seaboard, where average wheat yields were off about 3 bushels per acre between 1999 and 2000. In the Prairie Gateway--the major U.S. wheat growing region--average yields were down about 7 bushels per acre, causing returns above operating costs to fall more than 35 percent. Overall, yield variation improved returns in some regions and lowered returns in others.

Average **cotton** prices were up in 2000 compared to 1999, but remained at a level well below the highs of 1996 and 1997 ([appendix table 11](#)). The harvest-period and marketing-year average prices (upland cotton) were about the same in both 1999 and 2000, up 11 cents per pound in 2000 and above the upland cotton loan rate of 52 cents. Total operating costs for cotton production were up nearly 7 percent between 1999 and 2000 in response to fuel costs that were 38 percent higher. Returns above operating costs for cotton were higher in 2000 as a result of higher cotton

prices, and the average break-even price to cover operating costs was only about 41 cents per pound.

Regional cotton returns were up in 2000 from 1999 in all but one region. Higher cotton yields in the Heartland, Southern Seaboard, and Fruitful Rim regions pushed up returns. Returns above operating costs increased the most in the Southern Seaboard, where both cotton yields and prices were up about 20 percent in 2000. However, cotton yields were down sharply in the Prairie Gateway, nearly 25 percent, pushing returns above operating costs down to only \$10 per acre.

Costs and returns for other major field crops tended to follow much the same pattern as corn, soybeans, wheat, and cotton ([appendix tables 12-19](#)). Looking to 2001, prospects for higher returns to crop production are not encouraging. Higher energy prices have driven up the costs for nitrogen fertilizers, while crop prices have remained low. Corn prices have been below \$2.00 per bushel. Soybean prices have stayed around \$4.50 per bushel, and only recently have moved toward \$5.00. Wheat prices have recovered somewhat, but remain below \$3.00 per bushel. Cotton prices rose sharply at the beginning of 2001, reaching near \$0.60 per pound, but since have fallen to below \$0.40.

Cost and Return Highlights for Livestock

The relatively high **milk** prices of recent years, inexpensive concentrate feed prices, and ample supplies of alfalfa hay unleashed an expansion in milk production, and U.S. milk production rose 3 percent in 2000. Greater production put downward pressure on milk prices, causing the gross value of production on dairy operations to fall 12 percent from 1999 to 2000 ([appendix table 20](#)). However, lower feed grain, concentrate feed, hay, and silage prices were responsible for a 3 percent drop in total feed costs, although total cash costs changed little between 1999 and 2000. The net result was that average returns over cash expenses declined almost 60 percent between 1999 and 2000, from \$3.04 to \$1.23 per cwt. of milk sold.

Average returns over cash expenses also declined in all milk production regions between 1999 and 2000. Returns above cash costs were lowest in the Corn

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Belt, Northeast, and Upper Midwest regions, averaging less than \$1.00 per hundredweight in 2000, and highest in the Pacific, Southeast, and Southern Plains, where returns were more than \$2.00 per hundredweight. Differences in climatic conditions, and the larger-sized operations that characterize the southern and western regions are likely reasons for lower costs on these operations. Lower milk prices resulted in negative returns above total costs for 2000 in all but the Pacific region.

Market **hog** (barrow and gilt) prices at the beginning of 1999 were at record low levels, averaging below \$30 per cwt. during the first quarter. Hog prices improved later in 1999, but stayed only in the mid-\$30 per cwt. range. In 2000, market hog prices surged above \$40 per cwt., reaching nearly \$50 by mid-year before settling below \$45 per cwt. by year's end. Feeder pig prices continued to trend upward from lows late in 1998 and were sharply higher in 2000. Average feeder pig prices were \$59 per cwt in 1998, but increased to \$77 in 1999 and \$112 in 2000. While market hog prices were up nearly 40 percent from 1999 to 2000 and feeder pig prices moved about 45 percent higher, feed costs were stable as corn prices remained well below \$2.00 per bushel and prices paid for soybean meal were mostly unchanged. The net result was that average returns to hog production were much higher in 2000 than in 1999 among all U.S. producers and among producers in all regions ([appendix table 21](#)).

Higher market hog prices, coupled with steady feed costs, meant that average returns to **farrow-to-finish** production were much higher in 2000 among producers in all regions. Improved hog prices raised the gross value of production more than 40 percent between 1999 and 2000. Producers needed an average price of about \$22 per cwt. to cover operating costs and \$46 to cover total costs. With market hog prices averaging in the mid-\$40 range, most producers were able to cover feed and other operating costs during 2000, while many farrow-to-finish operations also covered total costs. Likewise, higher feeder pig prices and low feed costs in 2000 dramatically improved returns to **farrow-to-feeder pig** production from 1999. Prices needed to cover operating costs averaged \$38 per cwt. and to cover total (economic) costs were \$84 per cwt among all U.S. producers. With an average feeder pig price of more than \$110

per cwt., producers earned substantial returns to feeder pig production in 2000. Returns above total costs were the greatest in the Southern Seaboard where relatively large feeder pig operations are predominate. In contrast, higher market hog prices improved returns among **feeder pig-to-finish** operations in 2000, but higher feeder pig costs offset much of the benefit. U.S. hog finishers needed an average price of about \$48 per cwt. to cover operating costs and \$59 per cwt to cover total costs. Compared to market hog prices in the mid-\$40 range, many producers were able to cover operating costs in 2000, but few covered total costs. However, much of this result is determined by higher feeder pig prices in 2000 that drove the feeder pig cost up by about 50 percent from 1999. The price of feeder pigs is not the relevant cost to pig owners in most contract arrangements. Since the pigs are removed from feeder pig operations and placed on finishing operations, the relevant cost is the actual production cost incurred on the feeder pig operation. If actual feeder pig production costs are used, the feeder pig cost on finishing operations falls about \$10-\$12 per cwt. and returns to feeder pig finishing are significantly higher.

Already strong cattle prices in 1999 moved even higher in 2000, and **cow-calf** producers experienced a second year of increased returns. As a result, the total gross value of production in 2000 was almost 15 percent higher than in 1999. Operating costs were also higher for cow-calf producers in 2000, up about 4 percent, due mainly to higher hay prices that drove up forage costs. However, the higher gross value of production led to considerable improvement in average returns above operating costs in 2000 among all U.S. producers, up to \$29 per bred cow from -\$13 in 1999. Producers in the Northern Great Plains, Prairie Gateway, and Basin and Range had a third year of positive returns above operating costs. Average returns per bred cow to producers in the Prairie Gateway increased from \$48 in 1999 to \$101 in 2000. Average returns to producers in the Basin and Range increased 44 percent, while in the Northern Great Plains average returns increased almost 30 percent.

Unlike most field crop commodities, prospects for returns to livestock production in 2001 look favorable. Milk prices have moved from less than \$12

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per hundredweight in 2000 to more than \$16 in 2001. Hog prices fell below \$40 per hundredweight early in 2001, but have since recovered to more than \$50. Cattle prices have continued their upward trend since 1998, and have remained above \$100 per

hundredweight throughout 2001. On the cost side, low crop prices in 2001 have continued to keep feed costs down. Also, livestock producers have been much less affected by the rise in energy prices than have crop producers because energy-inputs comprise a much smaller share of their total production costs.

Spotlight Commodity: Wheat

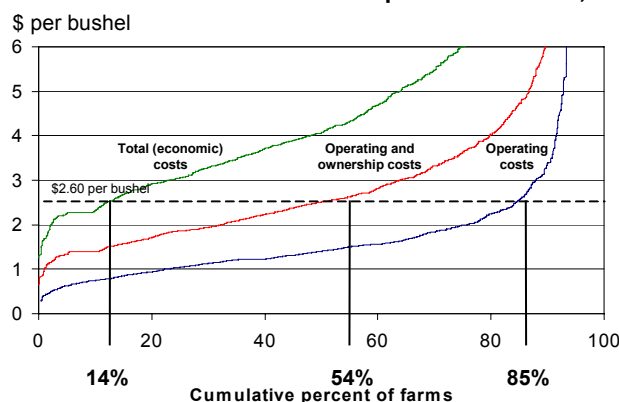
Considerable variation in production costs exists among wheat growers, and the national average presented in this report is just one point on the distribution. Analysis of 1998 wheat production costs results in the cumulative distributions shown in the graph (fig. 14). The distributions show the percent of farms that produced wheat at or below various cost levels. For example, the cumulative distribution of operating costs reveals that 88 percent of farms produced wheat at \$3.00 per bushel or less. Adding both operating and ownership costs, the percent of farms that produced wheat at or below \$3.00 per bushel falls to 64 percent. Only 23 percent of wheat farms produced wheat at or below a total (economic) cost of \$3.00 per bushel.

The relationship between wheat prices and production costs has important implications for planting decisions. Most annual production decisions are based on whether the grower expects that the price received for wheat will cover operating costs, including such costs as seed, fertilizer, chemicals, fuel, custom operations, repairs, and interest on operating inputs. Longer-term decisions about whether or not to continue raising wheat will be based on the relationship between expected prices over several years and both operating and asset ownership costs. Ownership costs are mainly the costs of maintaining the capital stock used in production, including costs for asset depreciation and interest (i.e. capital recovery), and taxes and insurance. Opportunity costs for land and the labor provided by the operator are not likely to influence annual production decisions, but may ultimately affect farmers' decisions about whether or not to switch to other crops or pursue off-farm work.

The average farm-level price received for all wheat in the past three crop-years (1998 through 2000) has ranged from \$2.48 to \$2.65 per bushel, compared to more than \$4.00 per bushel in the mid-1990s. The fact that more than 80 percent of farms produced wheat at an operating cost of \$2.60 per bushel or less in 1998 helps to explain why U.S. farmers have continued to plant wheat despite the low prices of recent years. However, farmers cannot continue to grow wheat over several years if they cannot also cover ownership costs and thus replace the capital stock as it deteriorates. Just over half of U.S. farmers covered both operating and ownership costs with wheat prices around \$2.60 per bushel. When the opportunity costs of land, labor, and other farm overhead costs are counted, only 14 percent of farmers produced wheat at or below \$2.60 per bushel.

Another reason many producers may continue to produce wheat despite low commodity prices is the impact of Government payments. Loan deficiency payments and marketing loan gains have added about \$0.19, \$0.41, and \$0.38 per bushel to gross returns from the 1998-2000 wheat crops, respectively. Also, many wheat producers received flexibility contract payments and emergency assistance payments during this period that may have helped to cover some of the wheat production costs.

Figure 14
Cumulative distribution of wheat production costs, 1998



Appendix

Appendix table 1--Net farm income for States, 1996 - 2000

State	1996	1997	1998	1999	2000
1000 dollars					
Alabama	1,015,254	1,098,273	1,190,283	1,449,970	1,196,212
Alaska	15,495	18,679	17,973	18,907	13,397
Arizona	714,575	633,008	755,404	773,427	616,638
Arkansas	2,021,470	1,828,730	1,535,950	1,827,465	1,578,125
California	6,011,932	6,272,700	5,219,621	5,262,187	5,348,996
Colorado	731,707	642,275	772,232	856,790	542,652
Connecticut	109,938	87,259	112,051	139,608	184,783
Delaware	121,446	92,782	140,770	136,032	135,909
Florida	2,018,850	2,210,086	2,307,988	2,806,993	2,712,956
Georgia	2,025,717	2,005,559	1,965,825	2,185,889	1,998,777
Hawaii	45,613	76,269	65,510	62,799	63,904
Idaho	928,246	634,242	862,504	912,858	832,094
Illinois	2,501,600	2,081,425	1,346,553	998,486	1,561,412
Indiana	1,296,266	1,258,279	739,143	372,987	821,529
Iowa	4,184,338	3,690,112	2,139,749	1,615,794	2,578,305
Kansas	2,050,964	1,834,375	1,481,959	1,564,036	956,147
Kentucky	1,231,173	1,269,970	1,093,196	885,054	1,662,695
Louisiana	823,410	560,731	330,058	530,021	488,360
Maine	109,758	45,564	78,907	100,719	96,510
Maryland	412,954	264,880	317,579	364,147	409,650
Massachusetts	150,292	144,400	39,698	54,482	59,778
Michigan	410,348	389,885	310,250	676,835	304,678
Minnesota	2,190,209	964,426	1,450,276	1,441,889	1,548,378
Mississippi	1,054,536	941,825	920,113	933,925	769,201
Missouri	1,302,484	1,291,558	693,963	392,906	971,899
Montana	330,511	308,601	328,475	500,676	291,794
Nebraska	3,440,962	2,076,027	1,830,032	1,743,500	1,419,762
Nevada	53,567	42,783	71,886	63,727	88,948
New Hampshire	20,003	12,820	12,377	25,183	15,837
New Jersey	232,068	133,230	135,228	120,290	221,698
New Mexico	379,444	521,197	576,923	628,699	494,239
New York	562,690	166,612	435,964	665,682	609,053
North Carolina	3,340,793	3,223,549	2,186,951	1,929,130	3,107,638
North Dakota	1,097,237	89,540	765,877	516,307	749,127
Ohio	1,329,060	1,808,382	1,212,212	789,806	1,177,321
Oklahoma	558,438	942,840	766,805	1,108,327	1,144,662
Oregon	567,199	633,130	477,282	307,494	342,656
Pennsylvania	953,106	532,314	617,922	655,038	949,161
Rhode Island	25,717	10,386	8,957	10,575	11,300
South Carolina	473,813	484,264	301,602	419,201	552,169
South Dakota	1,520,079	1,014,316	1,201,734	1,229,150	1,398,608
Tennessee	412,081	422,624	241,578	171,775	448,601
Texas	2,484,189	3,275,285	2,996,187	4,661,042	3,644,154
Utah	202,026	211,955	258,269	269,995	219,096
Vermont	134,891	95,086	117,656	143,800	163,143
Virginia	655,858	481,124	456,530	385,582	642,073
Washington	1,510,676	955,198	995,092	489,098	796,305
West Virginia	30,079	23,137	17,759	2,326	41,469
Wisconsin	919,798	461,057	893,650	939,850	347,614
Wyoming	80,673	218,687	62,859	173,688	114,239
United States	54,793,533	48,481,437	42,857,362	44,314,147	46,443,651

Source: Economic Research Service, USDA.

Appendix

Appendix table 2—Ranking of States for total net farm income, value of production per acre, and net farm income per acre and per operation for 2000

Rank	Net farm income		Value of production 1/		Net farm income per acre		Net farm income per operation	
	State		State	Dollars	State	Dollars	State	Dollars per
		\$1,000		per acre		per acre		operation
1	California	5,348,996	Connecticut	1,640	Connecticut	513	Arizona	82,218
2	Texas	3,644,154	Delaware	1,442	North Carolina	338	Florida	61,658
3	North Carolina	3,107,638	New Jersey	1,140	New Jersey	267	California	61,131
4	Florida	2,712,956	North Carolina	1,012	Florida	263	North Carolina	54,520
5	Iowa	2,578,305	California	977	Delaware	234	Delaware	52,273
6	Georgia	1,998,777	Rhode Island	950	Maryland	195	Connecticut	47,380
7	Kentucky	1,662,695	Maryland	834	California	192	South Dakota	43,034
8	Arkansas	1,578,125	Massachusetts	818	Rhode Island	188	Georgia	39,976
9	Illinois	1,561,412	Florida	703	Georgia	180	Idaho	33,963
10	Minnesota	1,548,378	Pennsylvania	620	Alabama	133	Maryland	33,036
11	Nebraska	1,419,762	Georgia	518	Pennsylvania	123	Arkansas	32,878
12	South Dakota	1,398,608	Vermont	444	Kentucky	122	New Mexico	32,516
13	Alabama	1,196,212	New York	440	Vermont	122	Nevada	29,649
14	Ohio	1,177,321	Alabama	434	South Carolina	117	Iowa	27,140
15	Oklahoma	1,144,662	Maine	433	Arkansas	108	Nebraska	26,292
16	Missouri	971,899	New Hampshire	420	Massachusetts	105	Alabama	25,451
17	Kansas	956,147	Hawaii	387	New York	79	North Dakota	24,724
18	Pennsylvania	949,161	South Carolina	380	Ohio	79	Vermont	23,992
19	Idaho	832,094	Washington	376	Iowa	79	Alaska	23,098
20	Indiana	821,529	Michigan	370	Maine	76	New Jersey	23,094
21	Washington	796,305	Ohio	368	Virginia	74	South Carolina	23,007
22	Mississippi	769,201	Arkansas	368	Idaho	70	Illinois	20,018
23	North Dakota	749,127	Wisconsin	361	Mississippi	69	Washington	19,908
24	Virginia	642,073	Iowa	358	Louisiana	60	Minnesota	19,600
25	Arizona	616,638	Indiana	342	Illinois	56	Colorado	18,712
26	New York	609,053	Kentucky	333	Minnesota	54	Kentucky	18,474
27	South Carolina	552,169	Virginia	327	Indiana	53	Mississippi	17,888
28	Colorado	542,652	Idaho	315	Washington	51	Louisiana	16,555
29	New Mexico	494,239	Mississippi	305	Hawaii	44	Rhode Island	16,143
30	Louisiana	488,360	Minnesota	295	Tennessee	38	Texas	16,125
31	Tennessee	448,601	Illinois	289	New Hampshire	38	Pennsylvania	16,087
32	Maryland	409,650	Louisiana	250	Oklahoma	34	New York	16,028
33	Wisconsin	347,614	Tennessee	229	Missouri	32	Kansas	14,940
34	Oregon	342,656	Oregon	210	South Dakota	32	Ohio	14,717
35	Michigan	304,678	Nebraska	205	Nebraska	31	Maine	14,193
36	Montana	291,794	Missouri	182	Michigan	29	Utah	14,135
37	New Jersey	221,698	Kansas	182	Texas	28	Oklahoma	13,467
38	Utah	219,096	Colorado	158	Arizona	23	Virginia	13,104
39	Connecticut	184,783	West Virginia	140	Wisconsin	21	Indiana	12,836
40	Vermont	163,143	Oklahoma	137	Kansas	20	Wyoming	12,417
41	Delaware	135,909	Texas	116	Oregon	20	Hawaii	11,211
42	Wyoming	114,239	Utah	103	North Dakota	19	Montana	10,572
43	Maine	96,510	South Dakota	99	Utah	19	Massachusetts	9,800
44	Nevada	88,948	Arizona	98	Colorado	17	Missouri	8,917
45	Hawaii	63,904	North Dakota	85	Alaska	15	Oregon	8,566
46	Massachusetts	59,778	Nevada	66	Nevada	13	Michigan	5,859
47	West Virginia	41,469	Alaska	62	West Virginia	12	New Hampshire	5,109
48	New Hampshire	15,837	New Mexico	49	New Mexico	11	Tennessee	4,984
49	Alaska	13,397	Montana	35	Montana	5	Wisconsin	4,514
50	Rhode Island	11,300	Wyoming	30	Wyoming	3	West Virginia	2,023
United States		46,443,645	United States	232	United States	49	United States	21,382

1/ Final agricultural sector output in the value-added accounting model (table).

Source: Economic Research Service, USDA.

Appendix

Appendix table 3--U.S. farm sector cash receipts from sales of agricultural commodities, 1997-2001F

	1997	1998	1999	2000	2001F
	\$ billion				
Food grains	10.4	8.8	7.0	6.6	6.7
Wheat	8.7	7.1	5.4	5.5	5.7
Rice	1.7	1.7	1.5	1.2	1.1
Feed crops	27.1	22.7	19.6	20.0	21.4
Corn	20.0	17.2	14.8	15.1	15.9
Barley, oats, and sorghum	2.5	1.6	1.5	1.4	1.5
Hay	4.6	3.8	3.3	3.4	4.0
Oil crops	19.7	17.4	13.6	13.9	14.8
Soybeans	18.1	15.6	12.0	12.5	13.4
Peanuts	1.0	1.1	1.0	0.8	0.9
Other oil crops					
Cotton (lint and seed)	6.3	6.1	4.7	4.6	4.0
Tobacco	2.9	2.8	2.3	2.3	1.8
Fruits and nuts	13.1	11.6	12.3	12.7	13.4
Vegetables	14.7	15.2	15.2	15.9	16.2
All other crops	16.9	17.2	17.9	18.2	18.7
Greenhouse and nursery	11.9	12.0	12.6	13.0	13.5
TOTAL CROPS	111.2	101.7	92.6	94.1	97.0
Livestock receipts:					
Red meats	49.7	43.3	45.6	53.0	55.0
Cattle and calves	36.0	33.4	36.5	40.8	42.3
Hogs	13.1	9.4	8.6	11.8	12.2
Sheep and lambs	0.6	0.5	0.5	0.5	0.4
Poultry and eggs	22.3	22.9	22.9	21.8	24.2
Broilers	14.2	15.1	15.1	14.0	16.3
Turkeys	2.8	2.6	2.8	2.8	2.7
Eggs	4.5	4.4	4.3	4.3	4.5
All dairy	20.9	24.1	23.2	20.6	25.3
Miscellaneous Livestock	3.6	3.7	3.8	4.1	4.1
TOTAL LIVESTOCK	96.5	94.1	95.5	99.5	108.5
TOTAL RECEIPTS	207.6	195.8	188.1	193.6	205.5

F = forecast. Numbers may not add due to rounding.

Source: Economic Research Service, USDA.

Appendix

Appendix table 4--Deriving farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology, 1996-2001 1/

	1996	1997	1998	1999	2000P 2/	2001F
	Dollars per farm					
Net cash farm business income 3/	13,502.0	12,676.0	14,357.0	13,194.0	11,175.0	11,093
Less depreciation 4/	6,906.0	6,578.0	7,409.0	7,027.0	7,357.0	n.a.
Less wages paid to operator 5/	531.0	513.0	637.0	499.0	608.0	n.a.
Less farmland rental income 6/	672.0	568.0	543.0	802.0	757.0	n.a.
Less adjusted farm business income due to other household(s) 7/	1,094.0	*1,505	1,332.0	1,262.0	801.0	n.a.
	Dollars per farm operator household					
Equals adjusted farm business income	4,300.0	3,513.0	4,436.0	3,603.0	*1652	n.a.
Plus wages paid to operator	531.0	513.0	637.0	499.0	608.0	n.a.
Plus net income from farmland rental 8/	1,178.0	945.0	868.0	1,312.0	n.a.	n.a.
Equals farm self-employment income	6,009.0	4,971.0	5,941.0	5,415.0	*2260	n.a.
Plus other farm-related earnings 9/	1,898.0	1,234.0	1,165.0	944.0	339.0	n.a.
Equals earnings of the operator household from farming activities	7,906.0	6,205.0	7,106.0	6,359.0	2,598.0	2,725
Plus earnings of the operator household from off-farm sources 10/	42,455.0	46,358.0	52,628.0	57,988.0	58,709.0	59,296
Equals average farm operator household income comparable to U.S. average household income, as measured by the CPS	50,361.0	52,562.0	59,734.0	64,347.0	61,307.0	62,021
	Dollars per U.S. household					
U.S. average household income 11/	47,123.0	49,692.0	51,855.0	54,842.0	n.a.	n.a.
	Percent					
Average farm operator household income as percent of U.S. average household income	106.9	105.8	115.2	117.3	n.a.	n.a.
Average operator household earnings from farming activities as percent of average operator household income	15.7	11.8	11.9	9.9	4.2	n.a.

P = Preliminary. F = forecast. n.a. = not available. * = The relative standard error exceeds 25 percent, but is no more than 50 percent.

1/ This table derives farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Census Bureau, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income.

2/ Resulting from a change in the survey design, net cash income from operating another farm or ranch is not available for all versions of ARMS in 2000. Therefore, both earnings of the operator household from farm activities and farm operator household income do not include this component. Further, the change in survey design results in net income from farm rental being considered as a component of earnings from off-farm sources. Therefore, the earnings of the operator household from farm activities, the earnings of the operator household from off-farm sources, and farm operator household are not comparable to those from previous years.

3/ A component of farm sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives and farms run by a hired manager. Includes the income of farms organized as proprietorships, partnerships, and family corporations.

4/ Consistent with the CPS definition of self-employment income, reported depreciation expenses are subtracted from net cash income. The ARMS collects farm business depreciation used for tax purposes.

5/ Wages paid to the operator are subtracted here because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income.

6/ Gross rental income is subtracted here because net rental income from the farm operation is added below to income received by the household.

7/ More than one household may have a claim on the income of a farm business. On average, 1.1 households share the income of a farm business.

8/ Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business. Net income from farm rental is not available as a separate element for all versions of ARMS in 2000.

9/ Wages paid to other operator household members by the farm business and net income from a farm business other than the one being surveyed.

Beginning in 1996, also includes the value of commodities provided to household members for farm work.

10/ Wages, salaries, net income from nonfarm businesses, interest, dividends, transfer payments, etc. For 2000, also includes net income from farm rental.

11/ From the CPS.

Sources: U.S. Dept. of Agriculture, Economic Research Service, 1996, 1997, 1998, 1999, and 2000 Agricultural Resource Management Study (ARMS) for farm operator household data. U.S. Dept. of Commerce, Bureau of the Census, Current Population Survey (CPS), for U.S. average household income.

Appendix

Appendix table 5--Farm business balance sheet

	1996	1997	1998	1999	2000p	2001f
	Billion dollars					
Farm assets	1,004.8	1,053.1	1,085.5	1,116.6	1,156.2	1,189.1
Real estate	769.5	808.2	841.8	870.0	905.8	932.9
Livestock and poultry	60.3	67.1	63.4	70.6	73.5	77.7
Machinery and equipment	89.8	90.1	90.2	89.0	89.3	89.9
Crops stored	31.7	32.9	30.1	26.9	28.1	28.0
Purchased inputs	4.4	5.1	5.3	4.2	4.5	4.6
Financial assets	49.0	49.7	54.8	55.8	55.0	56.0
Farm debt	156.1	165.5	172.9	176.4	183.6	185.2
Real estate	81.7	85.4	89.6	94.2	97.6	98.0
Nonreal estate	74.4	80.1	83.2	82.2	86.0	86.3
Farm equity	848.7	887.6	912.6	940.2	972.6	1,003.9

p = preliminary; f = ERS forecast.

Source: Economic Research Service/USDA.

Appendix table 6--Farm sector rates of return

	1996	1997	1998	1999	2000p	2001f
	Percent					
Rate of return on assets	3.9	2.8	2.3	1.7	2.1	3.9
Real capital gains on assets	1.7	2.7	2.8	1.4	2.0	1.9
Total real return on assets	5.6	5.5	5.1	4.7	4.1	5.8
Average interest rate paid on debt	8.2	8.1	8.1	7.5	7.6	7.5
Real capital gains on debt	2.0	1.8	0.8	1.0	0.9	0.7
Real cost of debt	6.2	6.3	7.3	6.6	6.7	6.8
Rate of return on equity	3.2	1.8	1.3	0.6	1.1	1.4
Real capital gains on equity	2.2	3.3	3.4	1.9	0.9	0.7
Total real return on assets	5.3	5.2	4.7	2.5	2.0	2.1
Real net return on assets financed by debt	-0.6	-0.8	-2.2	-1.8	-2.6	-1.0

p = preliminary; f = ERS forecast.

Source: Economic Research Service/USDA.

Appendix

Appendix table 7--Farm financial measures

	1996	1997	1998	1999	2000p	2001f
	Ratio					
Liquidity ratios:						
Farm business debt service coverage	2.26	2.22	2.04	1.99	2.18	2.19
Debt servicing	0.14	0.14	0.15	0.15	0.14	0.14
Times interest earned ratio	5.75	5.22	4.86	4.71	4.90	4.99
Solvency ratios:						
Debt/asset	15.50	15.70	15.90	15.80	15.90	15.60
Debt/equity	18.40	18.60	18.90	18.80	18.90	18.40
Profitability ratios:						
Return on equity	3.20	1.90	1.20	1.00	1.10	1.40
Return on assets	3.90	2.80	2.30	2.00	2.10	2.40
Financial efficiency ratios:						
Gross ratio	73.50	74.20	75.10	75.70	75.00	75.20
Interest to gross cash farm income	5.60	5.80	5.90	6.10	6.00	5.90
Asset turnover	22.10	22.10	20.80	20.40	20.20	20.00
Debt burden ratio (net cash income plus interest/farm debt)	45.80	44.30	40.40	38.80	39.80	39.20

p = preliminary; f = ERS forecast.

Source: Economic Research Service/USDA.

Appendix

Appendix table 8--Corn production costs and returns, excluding direct Government payments, 1999-2000

Item	United States		Heartland		Northern Crescent	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production (excluding direct Government payments):						
Primary product: Corn grain	228.15	244.26	235.47	258.13	209.56	230.21
Secondary product: Corn silage	2.55	2.41	1.17	1.23	11.99	10.80
Total, gross value of production	230.70	246.67	236.64	259.36	221.55	241.01
Operating costs:						
Seed	30.29	30.02	30.71	30.64	28.54	28.96
Fertilizer, lime, and gypsum	38.75	39.04	41.56	41.60	34.23	34.49
Soil conditioners	0.17	0.16	0.10	0.10	0.53	0.46
Manure	0.49	0.48	0.37	0.36	1.76	1.77
Chemicals	28.40	28.82	29.95	30.51	27.20	27.64
Custom operations 1/	11.37	11.48	10.73	10.96	9.97	9.84
Fuel, lube, and electricity	23.04	29.12	21.08	26.41	20.64	26.72
Repairs	17.17	17.55	15.62	15.98	16.72	17.42
Other variable cash expenses 2/	0.31	0.31	0.00	0.00	0.00	0.00
Interest on operating capital	3.50	4.53	3.50	4.51	3.25	4.25
Total, operating costs	153.49	161.51	153.62	161.07	142.84	151.55
Allocated overhead:						
Hired labor	3.28	3.36	2.34	2.35	4.55	4.92
Opportunity cost of unpaid labor	31.43	32.21	30.92	31.80	37.94	39.27
Capital recovery of machinery and equipment	68.49	70.16	65.70	67.32	69.86	72.87
Opportunity cost of land (rental rate)	86.77	89.36	97.32	100.73	65.48	66.80
Taxes and insurance	6.96	7.13	6.30	6.47	6.38	6.62
General farm overhead	10.88	11.11	10.86	11.11	13.57	13.96
Total, allocated overhead	207.81	213.33	213.44	219.78	197.78	204.44
Total, costs listed	361.30	374.84	367.06	380.85	340.62	355.99
Value of production less total costs listed	-130.60	-128.17	-130.42	-121.50	-119.07	-114.98
Value of production less operating costs	77.21	85.16	83.02	98.29	78.71	89.46
Supporting information:						
Yield (bushels per planted acre)	135	138	141	148	124	127
Price (dollars per bushel at harvest)	1.69	1.77	1.67	1.75	1.69	1.81
Enterprise size (planted acres) 3/	189	189	223	223	113	113
Production practices: 3/						
Irrigated (percent)	15	15	6	6	2	2
Dryland (percent)	85	85	94	94	98	98

1/ Cost of custom operations, technical services and commercial drying. 2/ Cost of purchased irrigation water.

3/ For 1996 survey base year only.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 8--Corn production costs and returns, excluding direct Government payments, 1999-2000 -- continued

Item	Northern Great Plains		Prairie Gateway		Eastern Uplands	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production (excluding direct Government payments):						
Primary product: Corn grain	162.75	161.02	246.40	239.15	194.00	239.51
Secondary product: Corn silage	1.52	2.47	0.15	0.16	0.00	0.00
Total, gross value of production	164.27	163.49	246.55	239.31	194.00	239.51
Operating costs:						
Seed	30.35	26.64	31.93	31.09	23.12	20.66
Fertilizer, lime, and gypsum	20.12	20.95	32.84	34.64	49.68	50.31
Soil conditioners	0.00	0.00	0.01	0.01	1.59	1.72
Manure	0.00	0.00	0.01	0.01	0.44	0.45
Chemicals	19.57	19.57	25.80	25.99	32.17	32.33
Custom operations 1/	21.60	20.64	14.06	13.85	6.20	6.51
Fuel, lube, and electricity	18.88	23.66	38.88	48.73	16.32	23.60
Repairs	18.80	17.95	25.38	25.58	15.28	16.68
Other variable cash expenses 2/	0.25	0.23	2.27	2.26	0.00	0.00
Interest on operating capital	3.04	3.74	4.02	5.25	3.37	4.39
Total, operating costs	132.61	133.38	175.20	187.41	148.17	156.65
Allocated overhead:						
Hired labor	1.91	1.93	6.07	6.21	2.92	3.00
Opportunity cost of unpaid labor	24.09	23.87	24.67	25.05	59.44	61.51
Capital recovery of machinery and equipment	60.79	59.38	83.46	83.93	69.82	76.08
Opportunity cost of land (rental rate)	56.02	56.88	79.08	79.65	46.49	48.39
Taxes and insurance	9.85	9.50	9.93	10.05	6.68	6.93
General farm overhead	6.40	6.54	9.87	10.11	10.70	10.96
Total, allocated overhead	159.06	158.10	213.08	215.00	196.05	206.87
Total, costs listed	291.67	291.48	388.28	402.41	344.22	363.52
Value of production less total costs listed	-127.40	-127.99	-141.73	-163.10	-150.22	-124.01
Value of production less operating costs	31.66	30.11	71.35	51.90	45.83	82.86
Supporting information:						
Yield (bushels per planted acre)	105	97	140	127	97	128
Price (dollars per bushel at harvest)	1.55	1.66	1.76	1.88	2.00	1.87
Enterprise size (planted acres) 3/	301	301	344	344	42	42
Production practices: 3/						
Irrigated (percent)	39	39	77	77	0	0
Dryland (percent)	61	61	23	23	100	100

1/ Cost of custom operations, technical services and commercial drying. 2/ Cost of purchased irrigation water.

3/ For 1996 survey base year only.

Source: Economic Research Service, USDA.

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Appendix table 8--Corn production costs and returns, excluding direct Government payments, 1999-2000 -- continued

Item	Southern Seaboard	
	1999	2000
	Dollars per planted acre	
Gross value of production (excluding direct Government payments):		
Primary product: Corn grain	180.94	206.70
Secondary product: Corn silage	3.46	2.35
Total, gross value of production	184.40	209.05
Operating costs:		
Seed	23.45	24.48
Fertilizer, lime, and gypsum	51.52	51.29
Soil conditioners	0.67	0.68
Manure	0.04	0.04
Chemicals	20.41	19.84
Custom operations 1/	11.83	12.01
Fuel, lube, and electricity	15.37	24.15
Repairs	17.22	19.07
Other variable cash expenses 2/	0.00	0.00
Interest on operating capital	3.30	4.37
Total, operating costs	143.81	155.93
Allocated overhead:		
Hired labor	11.31	11.78
Opportunity cost of unpaid labor	53.71	55.45
Capital recovery of machinery and equipment	75.29	83.65
Opportunity cost of land (rental rate)	33.86	34.73
Taxes and insurance	9.06	9.39
General farm overhead	9.22	9.44
Total, allocated overhead	192.45	204.44
Total, costs listed	336.26	360.37
Value of production less total costs listed	-151.86	-151.32
Value of production less operating costs	40.59	53.12
Supporting information:		
Yield (bushels per planted acre)	83	106
Price (dollars per bushel at harvest)	2.18	1.95
Enterprise size (planted acres) 3/	96	96
Production practices: 3/		
Irrigated (percent)	0	0
Dryland (percent)	100	100

1/ Cost of custom operations, technical services and commercial drying.

2/ Cost of purchased irrigation water. 3/ For 1996 survey base year only.

Source: Economic Research Service, USDA.

Appendix

Appendix table 9--Soybean production costs and returns, 1999-2000

Item	United States		Heartland		Northern Crescent	
	1999	2000	1999	2000	1999	2000
	Dollars per planted acre					
Gross value of production						
Primary product: Soybeans	178.00	182.45	186.06	199.80	189.20	182.04
Total, gross value of production	178.00	182.45	186.06	199.80	189.20	182.04
Operating costs:						
Seed	19.25	19.18	18.41	18.30	20.65	19.37
Fertilizer	7.96	7.87	7.25	7.23	13.38	13.12
Soil conditioners	0.10	0.14	0.08	0.14	0.19	0.20
Manure	0.79	0.84	0.88	0.94	1.94	2.01
Chemicals	24.88	22.32	25.56	22.58	25.87	25.07
Custom operations	5.86	5.78	5.90	5.83	6.31	6.34
Fuel, lube, and electricity	5.90	8.60	5.32	7.78	6.23	8.95
Repairs	9.79	10.17	9.11	9.50	9.39	9.79
Purchased irrigation water	0.05	0.06	0.00	0.00	0.00	0.00
Interest on operating capital	1.75	2.16	1.71	2.08	1.97	2.45
Total, operating costs	76.33	77.12	74.22	74.38	85.93	87.30
Allocated overhead:						
Hired labor	2.01	2.03	1.32	1.35	1.97	2.13
Opportunity cost of unpaid labor	18.46	19.49	17.97	18.93	24.66	26.42
Capital recovery of machinery and equipment	51.58	53.53	49.01	50.96	51.60	53.81
Opportunity cost of land (rental rate)	79.74	80.12	88.38	90.65	65.85	67.40
Taxes and insurance	6.77	7.01	6.82	7.04	6.86	7.10
General farm overhead	14.13	14.56	14.55	14.94	14.62	15.06
Total, allocated overhead	172.69	176.74	178.05	183.87	165.56	171.92
Total costs listed	249.02	253.86	252.27	258.25	251.49	259.22
Value of production less total costs listed	-71.02	-71.41	-66.21	-58.45	-62.29	-77.18
Value of production less operating costs	101.67	105.33	111.84	125.42	103.27	94.74
Supporting information:						
Yield (bushels per planted acre)	40	41	42	45	43	41
Price (dollars per bushel at harvest)	4.45	4.45	4.43	4.44	4.40	4.44
Enterprise size (planted acres) 1/	220	220	225	225	115	115
Production practices: 1/						
Irrigated (percent)	5	5	2	2	3	3
Dryland (percent)	95	95	98	98	97	97

1/ Developed from survey base year, 1997.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 9--Soybean production costs and returns, 1999-2000 -- continued

Item	Northern Great Plains		Prairie Gateway		Eastern Uplands	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production						
Primary product: Soybeans	168.40	161.50	154.35	114.66	100.98	155.38
Total, gross value of production	168.40	161.50	154.35	114.66	100.98	155.38
Operating costs:						
Seed	17.11	15.33	23.37	26.26	22.85	22.73
Fertilizer	4.91	4.90	4.25	4.19	20.18	18.75
Soil conditioners	0.00	0.00	0.03	0.03	0.47	0.43
Manure	0.40	0.42	0.05	0.05	0.15	0.15
Chemicals	19.21	16.64	23.02	20.38	23.86	21.93
Custom operations	6.46	6.42	6.48	6.14	3.58	3.63
Fuel, lube, and electricity	6.87	9.93	8.06	10.53	4.02	6.48
Repairs	10.03	10.52	11.94	11.68	7.59	8.23
Purchased irrigation water	0.00	0.00	0.76	0.81	0.00	0.00
Interest on operating capital	1.53	1.85	1.83	2.31	1.95	2.37
Total, operating costs	66.52	66.01	79.79	82.38	84.65	84.70
Allocated overhead:						
Hired labor	2.80	2.92	2.43	2.40	2.20	2.27
Opportunity cost of unpaid labor	14.83	15.45	20.37	20.93	30.93	33.07
Capital recovery of machinery and equipment	46.76	49.05	57.50	56.12	46.03	50.03
Opportunity cost of land (rental rate)	40.10	40.16	54.57	50.74	41.84	42.02
Taxes and insurance	8.65	8.96	8.07	8.36	5.67	5.83
General farm overhead	21.90	22.50	13.65	14.07	10.88	11.20
Total, allocated overhead	135.04	139.04	156.59	152.62	137.55	144.42
Total costs listed	201.56	205.05	236.38	235.00	222.20	229.12
Value of production less total costs listed	-33.16	-43.55	-82.03	-120.34	-121.22	-73.74
Value of production less operating costs	101.88	95.49	74.56	32.28	16.33	70.68
Supporting information:						
Yield (bushels per planted acre)	40	38	35	26	22	34
Price (dollars per bushel at harvest)	4.21	4.25	4.41	4.41	4.59	4.57
Enterprise size (planted acres) 1/	281	281	170	170	130	130
Production practices: 1/						
Irrigated (percent)	7	7	20	20	0	0
Dryland (percent)	93	93	80	80	100	100

1/ Developed from survey base year, 1997.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 9--Soybean production costs and returns, 1999-2000 -- continued

Item	Southern Seaboard		Mississippi Portal	
	1999	2000	1999	2000
	Dollars per planted acre			
Gross value of production				
Primary product: Soybeans	120.96	174.33	120.75	112.80
Total, gross value of production	120.96	174.33	120.75	112.80
Operating costs:				
Seed	23.46	20.57	20.64	20.67
Fertilizer	21.42	21.42	7.94	7.59
Soil conditioners	0.72	0.76	0.06	0.06
Manure	0.22	0.22	0.06	0.07
Chemicals	20.98	19.89	22.75	21.50
Custom operations	5.59	5.51	5.01	4.85
Fuel, lube, and electricity	5.21	9.57	8.29	12.57
Repairs	9.29	10.76	13.57	14.25
Purchased irrigation water	0.00	0.00	0.00	0.00
Interest on operating capital	2.05	2.56	1.84	2.35
Total, operating costs	88.94	91.26	80.16	83.91
Allocated overhead:				
Hired labor	3.98	4.04	5.87	6.01
Opportunity cost of unpaid labor	21.87	22.77	15.08	15.94
Capital recovery of machinery and equipment	53.15	61.69	66.42	69.63
Opportunity cost of land(rental rate)	35.71	35.17	67.23	57.03
Taxes and insurance	4.86	4.99	5.69	5.88
General farm overhead	12.51	12.84	10.35	10.60
Total, allocated overhead	132.08	141.50	170.64	165.09
Total costs listed	221.02	232.76	250.80	249.00
Value of production less total costs listed	-100.06	-58.43	-130.05	-136.20
Value of production less operating costs	32.02	83.07	40.59	28.89
Supporting information:				
Yield (bushels per planted acre)	27	39	25	24
Price (dollars per bushel at harvest)	4.48	4.47	4.83	4.7
Enterprise size (planted acres) 1/	234	234	495	495
Production practices: 1/				
Irrigated (percent)	0	0	19	19
Dryland (percent)	100	100	81	81

1/ Developed from survey base year, 1997.

Source: Economic Research Service, USDA.

Appendix

Appendix table 10--Wheat production costs and returns, 1999-2000

Item	United States		Northern Great Plains		Prairie Gateway	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production						
Primary product: Wheat grain	95.80	92.57	85.49	83.98	81.93	70.89
Secondary product: straw/grazing	3.05	3.20	1.42	1.67	2.08	2.32
Total, gross value of production	98.85	95.77	86.91	85.65	84.01	73.21
Operating costs:						
Seed	6.38	6.14	6.36	6.19	4.39	3.92
Fertilizer	16.95	17.28	13.46	13.91	13.33	13.58
Chemicals	7.22	7.13	10.28	10.15	3.23	3.14
Custom operations	6.47	6.50	3.82	4.00	7.63	7.12
Fuel, lube, and electricity	6.53	9.13	4.16	6.06	7.63	11.14
Repairs	9.44	9.97	8.85	9.85	8.98	9.05
Purchased irrigation water and baling	0.57	0.59	0.16	0.16	0.15	0.15
Interest on operating inputs	1.26	1.64	1.11	1.45	1.07	1.39
Total, operating costs	54.82	58.38	48.20	51.77	46.41	49.49
Allocated overhead:						
Hired labor	2.17	2.30	1.48	1.60	1.78	1.85
Opportunity cost of unpaid labor	15.32	15.74	11.18	11.60	16.24	16.67
Capital recovery of machinery and equipment	45.52	48.25	45.06	50.15	41.32	41.75
Opportunity cost of land (rental rate)	37.89	38.53	35.76	36.26	28.57	28.94
Taxes and insurance	3.74	3.82	3.81	3.85	3.05	3.11
General farm overhead	6.69	6.84	6.42	6.49	5.74	5.88
Total, allocated overhead	111.33	115.48	103.71	109.95	96.70	98.20
Total, costs listed	166.15	173.86	151.91	161.72	143.11	147.69
Value of production less total costs listed	-67.30	-78.09	-65.00	-76.08	-59.10	-74.48
Value of production less operating costs	44.03	37.39	38.71	33.88	37.60	23.72
Supporting information:						
Yield (bushels per planted acre)	38.6	37.6	31.9	33.6	35.6	28.5
Price (dollars per bushel at harvest)	2.48	2.46	2.68	2.50	2.30	2.49
Enterprise size (planted acres) 1/	296	296	527	527	347	347
Production practices: 1/						
Winter wheat (percent of acres)	67	67	19	19	100	100
Spring wheat (percent of acres)	27	27	66	66	0	0
Durum wheat (percent of acres)	6	6	15	15	0	0
Irrigated (percent of acres)	5	5	*	*	6	6
Dryland (percent of acres)	95	95	99	99	94	94
Fallow (percent of acres)	9	9	22	22	0	0
Double-cropped (percent of acres)	*	*	0	0	*	*
Straw (percent of acres)	7	7	8	8	*	*
Home-grown seed (percent of seed)	60	60	70	70	68	68

* = 0.1 to less than 5 percent. 1/ Developed for survey base year, 1998.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 10--Wheat production costs and returns, 1999-2000 -- continued

Item	Basin and Range		Fruitful Rim		Northern Crescent	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production						
Primary product: Wheat grain	154.92	164.28	176.73	184.20	131.60	144.27
Secondary product: straw/grazing	0.47	0.62	4.03	4.63	58.42	48.75
Total, gross value of production	155.39	164.90	180.76	188.83	190.02	193.02
Operating costs:						
Seed	9.15	9.52	10.73	10.91	10.01	9.15
Fertilizer	26.71	26.22	27.73	27.95	32.56	32.38
Chemicals	15.67	15.26	14.12	13.81	2.94	2.86
Custom operations	3.73	4.57	12.99	14.22	11.61	12.68
Fuel, lube, and electricity	7.53	9.76	15.69	18.10	3.90	5.77
Repairs	13.21	14.17	14.31	15.31	6.49	6.46
Purchased irrigation water and baling	1.08	1.12	5.91	6.19	1.97	2.05
Interest on operating inputs	1.81	2.32	2.39	3.07	1.64	2.06
Total, operating costs	78.89	82.94	103.87	109.56	71.12	73.41
Allocated overhead:						
Hired labor	5.16	5.51	6.68	7.11	0.38	0.40
Opportunity cost of unpaid labor	26.05	26.93	21.8	22.62	16.27	16.69
Capital recovery of machinery and equipment	64.08	68.85	62.72	67.15	39.47	39.31
Opportunity cost of land (rental rate)	50.23	51.12	77.37	78.61	66.73	67.67
Taxes and insurance	7.12	7.28	5.96	6.09	4.07	4.17
General farm overhead	11.59	11.85	10.39	10.62	8.00	8.21
Total, allocated overhead	164.23	171.54	184.92	192.20	134.92	136.45
Total, costs listed	243.12	254.48	288.79	301.76	206.04	209.86
Value of production less total costs listed	-87.73	-89.58	-108.03	-112.93	-16.02	-16.84
Value of production less operating costs	76.50	81.96	76.89	79.27	118.90	119.61
Supporting information:						
Yield (bushels per planted acre)	56.1	66.5	62.2	72.5	65.8	69.0
Price (dollars per bushel at harvest)	2.76	2.47	2.84	2.54	2.00	2.09
Enterprise size (planted acres) 1/	527	527	359	359	45	45
Production practices: 1/						
Winter wheat (percent of acres)	80	80	80	80	95	95
Spring wheat (percent of acres)	19	19	12	12	5	5
Durum wheat (percent of acres)	*	*	8	8	0	0
Irrigated (percent of acres)	8	8	35	35	0	0
Dryland (percent of acres)	92	92	65	65	100	100
Fallow (percent of acres)	12	12	*	*	0	0
Double-cropped (percent of acres)	0	0	0	0	0	0
Straw (percent of acres)	6	6	14	14	64	64
Home-grown seed (percent of seed)	33	33	19	19	54	54

* = 0.1 to less than 5 percent. 1/ Developed for survey base year, 1998.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 10--Wheat production costs and returns, 1999-2000 -- continued

Item	Heartland		Southern Seaboard		Mississippi Portal	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production						
Primary product: Wheat grain	120.59	129.84	101.93	97.20	134.19	155.48
Secondary product: straw/grazing	14.10	13.43	6.50	6.01	1.72	1.62
Total, gross value of production	134.69	143.27	108.43	103.21	135.91	157.10
Operating costs:						
Seed	10.84	10.31	14.37	14.15	11.74	11.20
Fertilizer	35.22	35.06	42.59	42.44	22.73	24.24
Chemicals	3.86	3.67	5.43	5.37	6.93	6.53
Custom operations	6.97	7.22	14.31	14.43	18.44	20.11
Fuel, lube, and electricity	4.49	6.56	5.32	8.03	5.01	8.20
Repairs	8.16	8.31	10.23	10.22	9.09	10.68
Purchased irrigation water and baling	0.50	0.55	0.17	0.17	0.15	0.14
Interest on operating inputs	1.65	2.07	2.17	2.73	1.74	2.34
Total, operating costs	71.69	73.75	94.59	97.54	75.83	83.44
Allocated overhead:						
Hired labor	1.29	1.40	5.58	5.77	5.48	5.75
Opportunity cost of unpaid labor	17.07	17.68	21.33	22.04	6.43	6.94
Capital recovery of machinery and equipment	43.83	44.66	46.98	46.77	44.61	51.97
Opportunity cost of land (rental rate)	64.62	65.27	43.99	44.78	46.26	46.98
Taxes and insurance	3.20	3.36	2.70	2.74	6.74	7.24
General farm overhead	7.26	7.50	5.93	6.01	9.94	10.84
Total, allocated overhead	137.27	139.87	126.51	128.11	119.46	129.72
Total, costs listed	208.96	213.62	221.10	225.65	195.29	213.16
Value of production less total costs listed	-74.27	-70.35	-112.67	-122.44	-59.38	-56.06
Value of production less operating costs	63.00	69.52	13.84	5.67	60.08	73.66
Supporting information:						
Yield (bushels per planted acre)	57.2	59.0	45.7	42.6	56.6	62.4
Price (dollars per bushel at harvest)	2.11	2.20	2.23	2.28	2.37	2.49
Enterprise size (planted acres) 1/	79	79	131	131	232	232
Production practices: 1/						
Winter wheat (percent of acres)	85	85	100	100	100	100
Spring wheat (percent of acres)	15	15	0	0	0	0
Durum wheat (percent of acres)	0	0	0	0	0	0
Irrigated (percent of acres)	0	0	*	*	0	0
Dryland (percent of acres)	100	100	99	99	100	100
Fallow (percent of acres)	0	0	0	0	0	0
Double-cropped (percent of acres)	*	*	10	10	*	*
Straw (percent of acres)	17	17	13	13	*	*
Home-grown seed (percent of seed)	39	39	27	27	10	10

* = 0.1 to less than 5 percent. 1/ Developed for survey base year, 1998.

Source: Economic Research Service, USDA.

Appendix

Appendix table 11--Cotton production costs and returns, 1999-2000

Item	United States		Heartland		Prairie Gateway	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production:						
Primary product: Cotton	274.48	330.02	299.00	401.52	172.43	159.53
Secondary product: Cottonseed	40.32	40.68	50.15	57.05	30.60	17.70
Total, gross value of production	314.80	370.70	349.15	458.57	203.03	177.23
Operating costs:						
Seed	18.35	21.25	9.63	10.90	16.12	20.12
Fertilizer	29.91	31.32	29.85	31.27	17.11	17.92
Chemicals	58.60	58.32	74.32	73.71	25.89	25.67
Custom operations	19.67	19.93	8.19	9.19	8.74	6.69
Fuel, lube, and electricity	26.64	36.97	17.46	23.29	25.27	35.41
Repairs	26.28	27.18	33.73	34.47	24.36	25.36
Interest on operating inputs	5.61	7.29	5.36	7.01	3.74	4.69
Ginning	53.08	51.46	54.65	60.29	41.61	31.31
Purchased irrigation water	6.12	6.38	0.00	0.00	0.00	0.00
Total, operating costs	244.26	260.10	233.19	250.13	162.84	167.17
Allocated overhead:						
Hired labor	35.48	36.98	25.01	26.28	28.59	30.52
Opportunity cost of unpaid labor	29.27	29.90	18.72	19.35	30.02	30.29
Capital recovery of machinery and equipment	96.80	97.97	125.39	126.02	87.25	88.91
Opportunity cost of land	51.84	51.81	56.71	77.87	22.13	18.75
Taxes and insurance	15.07	15.93	7.03	7.45	14.44	15.31
General farm overhead	15.35	15.82	6.43	6.59	10.85	11.12
Total, allocated overhead	243.81	248.41	239.29	263.56	193.28	194.90
Total costs listed	488.07	508.51	472.48	513.69	356.12	362.07
Value of production less total costs listed	-173.27	-137.81	-123.33	-55.12	-153.09	-184.84
Value of production less operating costs	70.54	110.60	115.96	208.44	40.19	10.06
Supporting information:						
Cotton Yield: pounds per planted acre	584	569	650	717	401	301
Price: dollars per pound	0.47	0.58	0.46	0.56	0.43	0.53
Cottonseed Yield: pounds per planted acre	1,008	1,017	1,003	1,141	765	590
Price: dollars per pound	0.04	0.04	0.05	0.05	0.04	0.03
Production practices: 1/						
Irrigated (percent)	33	33	33	33	30	30
Dryland (percent)	67	67	67	67	70	70
Land tenure: 1/						
Acres owned (percent)	35	35	21	21	30	30
Acres cash rented (percent)	23	23	16	16	4	4
Acres share rented (percent)	42	42	63	63	66	66
Land rent basis 2/	Composite	Composite	Share	Share	Share	Share

1/ Developed from survey base year, 1997. 2/ Method used to determine the opportunity cost of land.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 11--Cotton production costs and returns, 1999-2000 -- continued

Item	Southern Seaboard		Fruitful Rim		Mississippi Portal	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production:						
Primary product: Cotton	272.16	389.76	537.30	651.42	311.42	371.28
Secondary product: Cottonseed	39.96	50.52	85.26	77.20	48.32	61.95
Total, gross value of production	312.12	440.28	622.56	728.62	359.74	433.23
Operating costs:						
Seed	18.62	17.87	23.18	30.54	19.42	21.22
Fertilizer	43.80	45.63	38.72	40.77	34.71	36.34
Chemicals	69.28	68.48	92.11	92.07	86.03	85.29
Custom operations	13.23	15.39	74.37	78.46	14.35	14.28
Fuel, lube, and electricity	21.94	31.68	51.40	63.80	20.39	30.89
Repairs	24.01	24.05	25.15	26.56	31.78	32.86
Interest on operating inputs	5.71	7.68	10.34	13.58	6.13	7.89
Ginning	52.06	63.38	88.64	91.40	53.87	52.74
Purchased irrigation water	0.00	0.00	46.02	47.35	0.00	0.00
Total, operating costs	248.65	274.16	449.93	484.53	266.68	281.51
Allocated overhead:						
Hired labor	27.72	28.62	61.03	63.37	40.64	41.11
Opportunity cost of unpaid labor	36.45	37.85	31.86	32.28	21.80	22.68
Capital recovery of machinery and equipment	91.11	89.72	98.01	101.12	115.65	116.74
Opportunity cost of land	45.54	42.11	138.04	155.02	58.84	54.16
Taxes and insurance	17.77	18.83	16.14	17.12	14.17	14.86
General farm overhead	12.84	13.22	33.76	34.70	15.86	16.33
Total, allocated overhead	231.43	230.35	378.84	403.61	266.96	265.88
Total costs listed	480.08	504.51	828.77	888.14	533.64	547.39
Value of production less total costs listed	-167.96	-64.23	-206.21	-159.52	-173.90	-114.16
Value of production less operating costs	63.47	166.12	172.63	244.09	93.06	151.72
Supporting information:						
Cotton Yield: pounds per planted acre	567	672	995	1,034	677	663
Price: dollars per pound	0.48	0.58	0.54	0.63	0.46	0.56
Cottonseed Yield: pounds per planted acre	999	1,263	1,421	1,544	1,208	1,239
Price: dollars per pound	0.04	0.04	0.06	0.05	0.04	0.05
Production practices: 1/						
Irrigated (percent)	11	11	74	74	30	30
Dryland (percent)	89	89	26	26	70	70
Land tenure: 1/						
Acres owned (percent)	37	37	54	54	31	31
Acres cash rented (percent)	56	56	25	25	26	26
Acres share rented (percent)	7	7	21	21	43	43
Land rent basis 2/	Cash	Cash	Cash	Cash	Cash	Cash

1/ Developed from survey base year, 1997. 2/ Method used to determine the opportunity cost of land.

Source: Economic Research Service, USDA.

Appendix

Appendix table 12a--Barley production cash costs and returns, excluding direct Government payments, 1999-00

Item	United States		Northeast		Northern Plains	
	1999	2000	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre					
Barley	98.88	96.75	102.57	109.96	73.27	68.82
Barley straw	5.10	4.95	67.20	57.39	1.79	2.02
Total, gross value of production	103.98	101.70	169.77	167.35	75.06	70.84
Cash expenses:						
Seed	8.01	7.84	12.62	9.71	5.73	5.84
Fertilizer, lime, and gypsum	18.03	18.13	34.98	35.35	13.52	13.80
Chemicals	10.27	9.83	3.61	3.61	8.14	7.77
Custom operations	5.05	4.99	4.76	4.99	3.68	3.64
Fuel, lube, and electricity	13.57	16.17	7.49	11.71	7.72	10.28
Repairs	15.49	16.18	12.77	13.46	14.25	14.91
Hired labor	6.30	6.52	5.41	5.61	4.65	4.88
Other variable cash expenses 1/	2.38	2.28	2.01	2.07	1.32	1.14
Total, variable cash expenses	79.10	81.94	83.65	86.51	59.01	62.26
General farm overhead	6.28	6.33	5.68	5.88	5.77	5.82
Taxes and insurance	12.02	12.02	13.80	14.32	10.39	10.70
Interest	10.67	11.05	3.47	3.71	11.40	11.40
Total, fixed cash expenses	28.97	29.40	22.95	23.91	27.56	27.92
Total, cash expenses	108.07	111.34	106.60	110.42	86.57	90.18
Gross value of production less cash expenses	-4.09	-9.64	63.17	56.93	-11.51	-19.34
Harvest-period price (dollars/bu.)	1.89	1.82	1.35	1.38	1.73	1.59
Yield (bu./planted acre)	52.32	53.16	75.98	79.68	42.35	43.28

Appendix table 12b--Barley production economic costs and returns, excluding direct Government payments, 1999-00

Item	United States		Northeast		Northern Plains	
	1999	2000	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre					
Barley	98.88	96.75	102.57	109.96	73.27	68.82
Barley straw	5.10	4.95	67.20	57.39	1.79	2.02
Total, gross value of production	103.98	101.70	169.77	167.35	75.06	70.84
Economic (full ownership) costs:						
Variable cash expenses	79.10	81.94	83.65	86.51	59.01	62.26
General farm overhead	6.28	6.33	5.68	5.88	5.77	5.82
Taxes and insurance	12.02	12.02	13.80	14.32	10.39	10.70
Capital replacement	32.00	33.10	23.83	25.14	29.18	30.03
Operating capital	1.88	2.40	1.99	2.53	1.41	1.82
Other nonland capital	14.49	13.92	11.43	11.02	14.57	13.89
Land	35.30	35.85	22.92	23.17	28.12	29.82
Unpaid labor	8.43	8.85	15.92	16.63	6.21	6.70
Total, economic costs	189.50	194.41	179.22	185.20	154.66	161.04
Residual returns to management and risk	-85.52	-92.71	-9.45	-17.85	-79.60	-90.20
Harvest-period price (dollars/bu.)	1.89	1.82	1.35	1.38	1.73	1.59
Yield (bu./planted acre)	52.32	53.16	75.98	79.68	42.35	43.28

1/ Cost of purchased irrigation water and baling.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 12a--Barley production cash costs and returns, excluding direct Government payments, 1999-00 -- continued

Item	Northwest		Southwest	
	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre			
Barley	148.44	158.32	125.57	135.93
Barley straw	3.25	4.13	3.81	5.88
Total, gross value of production	151.69	162.45	129.38	141.81
Cash expenses:				
Seed	11.87	12.10	10.06	10.78
Fertilizer, lime, and gypsum	26.47	27.60	14.32	14.06
Chemicals	16.71	16.59	7.85	7.96
Custom operations	6.68	6.99	10.67	11.69
Fuel, lube, and electricity	26.07	30.52	19.53	23.52
Repairs	18.79	19.81	15.01	16.65
Hired labor	9.10	9.79	10.27	11.59
Other variable cash expenses 1/	4.08	4.32	5.27	6.49
Total, variable cash expenses	119.77	127.72	92.98	102.74
General farm overhead	6.87	7.23	8.72	8.55
Taxes and insurance	13.56	14.06	18.98	16.63
Interest	11.52	12.50	5.46	5.75
Total, fixed cash expenses	31.95	33.79	33.16	30.93
Total, cash expenses	151.72	161.51	126.14	133.67
Gross value of production less cash expenses	-0.03	0.94	3.24	8.14
Harvest-period price (dollars/bu.)	2.12	2.13	2.24	2.48
Yield (bu./planted acre)	70.02	74.33	56.06	54.81

Appendix table 12b--Barley production economic costs and returns, excluding direct Government payments, 1999-00 -- continued

Item	Northwest		Southwest	
	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre			
Barley	148.44	158.32	125.57	135.93
Barley straw	3.25	4.13	3.81	5.88
Total, gross value of production	151.69	162.45	129.38	141.81
Economic (full ownership) costs:				
Variable cash expenses	119.77	127.72	92.98	102.74
General farm overhead	6.87	7.23	8.72	8.55
Taxes and insurance	13.56	14.06	18.98	16.63
Capital replacement	38.93	41.15	34.54	38.42
Operating capital	2.85	3.74	2.21	3.00
Other nonland capital	14.89	14.40	14.19	14.18
Land	50.03	51.14	47.77	46.43
Unpaid labor	11.64	12.50	10.76	12.08
Total, economic costs	258.54	271.94	230.15	242.03
Residual returns to management and risk	-106.85	-109.49	-100.77	-100.22
Harvest-period price (dollars/bu.)	2.12	2.13	2.24	2.48
Yield (bu./planted acre)	70.02	74.33	56.06	54.81

1/ Cost of purchased irrigation water and baling.

Source: Economic Research Service, USDA.

Appendix

Appendix table 13--Grain sorghum production costs and returns per planted acre, 1999-2000

Item	United States		Eastern Uplands		Heartland	
	1999	2000	1999	2000	1999	2000
Dollars per planted acre						
Gross value of production:						
Sorghum	96.66	88.62	84.24	91.16	110.96	135.29
Total, gross value of production	96.66	88.62	84.24	91.16	110.96	135.29
Operating costs:						
Seed	6.72	6.33	7.00	5.18	8.91	8.62
Fertilizer	13.89	14.34	23.88	24.50	26.15	25.65
Chemicals	11.20	11.15	10.95	10.65	20.14	19.67
Custom operations	6.78	5.48	5.59	5.12	6.82	7.15
Fuel, lube, and electricity	21.92	26.09	29.33	35.88	25.15	36.34
Repairs	14.70	15.29	16.75	17.21	13.96	14.35
Interest on operating inputs	1.77	2.27	2.20	2.84	2.38	3.22
Total, operating costs	76.98	80.95	95.70	101.38	103.51	115.00
Allocated overhead:						
Hired labor	6.36	6.57	2.02	2.37	2.49	2.46
Opportunity cost of unpaid labor	20.38	20.80	22.50	23.51	18.66	19.24
Capital recovery of machinery and equipment	55.79	56.70	63.53	63.89	52.90	53.19
Opportunity cost of land	23.53	21.02	37.78	36.79	68.00	62.41
Taxes and insurance	4.90	5.07	7.81	7.84	7.07	7.40
General farm overhead	3.97	4.08	6.85	7.63	2.91	3.03
Total, allocated overhead	114.93	114.24	140.49	142.03	152.03	147.73
Total costs listed	191.91	195.19	236.19	243.41	255.54	262.73
Value of production less total costs listed	-95.25	-106.57	-151.95	-152.25	-144.58	-127.44
Value of production less operating costs	19.68	7.67	-11.46	-10.22	7.45	20.29
Supporting information:						
Sorghum Yield: bushels per acre	54	42	54	43	76	83
Price: dollars per bushel	1.79	2.11	1.56	2.12	1.46	1.63
Production practices: 1/						
Irrigated (percent)	9	9	1	1	2	2
Dryland (percent)	91	91	99	99	98	98
Land tenure: 1/						
Acres owned (percent)	31	31	30	30	41	41
Acres cash rented (percent)	16	16	27	27	11	11
Acres share rented (percent)	53	53	43	43	48	48
Land rent basis 2/	Composite	Composite	Cash	Cash	Cash	Cash

1/ Developed from survey base year, 1995. 2/ Method used to determine the opportunity cost of land.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 13--Grain sorghum production costs and returns per planted acre, 1999-2000 -- continued

Item	Mississippi Portal		Prairie Gateway	
	1999	2000	1999	2000
Dollars per planted acre				
Gross value of production:				
Sorghum	123.84	126.08	92.04	84.46
Total, gross value of production	123.84	126.08	92.04	84.46
Operating costs:				
Seed	7.49	8.01	6.18	5.98
Fertilizer	25.05	27.07	12.45	12.93
Chemicals	16.49	16.45	10.76	10.74
Custom operations	9.05	8.14	5.80	4.55
Fuel, lube, and electricity	9.87	14.68	22.64	26.28
Repairs	16.83	17.65	14.67	15.27
Interest on operating inputs	1.99	2.65	1.71	2.18
Total, operating costs	86.77	94.65	74.21	77.93
Allocated overhead:				
Hired labor	11.98	12.66	6.38	6.55
Opportunity cost of unpaid labor	13.08	13.57	20.47	20.90
Capital recovery of machinery and equipment	60.35	62.04	56.36	57.29
Opportunity cost of land	26.92	27.02	19.67	17.45
Taxes and insurance	7.05	7.28	4.84	5.00
General farm overhead	3.86	3.96	3.89	4.00
Total, allocated overhead	123.24	126.53	111.61	111.19
Total costs listed	210.01	221.18	185.82	189.12
Value of production less total costs listed	-86.17	-95.10	-93.78	-104.66
Value of production less operating costs	37.07	31.43	17.83	6.53
Supporting information:				
Sorghum Yield: bushels per acre	72	64	52	41
Price: dollars per bushel	1.72	1.97	1.77	2.06
Production practices: 1/				
Irrigated (percent)	5	5	10	10
Dryland (percent)	95	95	90	90
Land tenure: 1/				
Acres owned (percent)	15	15	32	32
Acres cash rented (percent)	22	22	16	16
Acres share rented (percent)	62	62	53	53
Land rent basis 2/	Share	Share	Share	Share

1/ Developed from survey base year, 1995. 2/ Method used to determine the opportunity cost of land.

Source: Economic Research Service, USDA.

Appendix

Appendix table 14a--Oats production cash costs and returns, excluding direct Government payments, 1999-2000 1/

Item	United States		Northeast		North Central	
	1999	2000	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre					
Oats	62.17	70.10	55.10	71.13	68.26	69.90
Oats straw	32.85	33.67	43.19	44.27	45.34	46.48
Total, gross value of production	95.02	103.77	98.29	115.40	113.60	116.38
Cash expenses:						
Seed	7.47	7.25	14.16	13.83	9.02	8.30
Fertilizer, lime, and gypsum	14.70	14.88	28.00	27.48	17.90	18.24
Chemicals	1.82	1.81	2.88	2.86	1.26	1.25
Custom operations	4.32	4.33	4.90	4.91	5.75	5.76
Fuel, lube, and electricity	6.34	9.10	10.60	15.67	3.72	5.52
Repairs	9.95	9.69	11.78	11.24	6.70	6.57
Hired labor	2.23	2.44	3.61	3.94	2.00	2.18
Other variable cash expenses 2/	1.22	1.25	1.50	1.53	1.67	1.71
Total, variable cash expenses	48.05	50.75	77.43	81.46	48.02	49.53
General farm overhead	5.94	6.09	8.86	9.08	5.08	5.21
Taxes and insurance	14.85	15.60	22.10	23.21	20.15	21.16
Interest	5.49	5.80	5.27	5.56	6.13	6.48
Total, fixed cash expenses	26.28	27.49	36.23	37.85	31.36	32.85
Total, cash expenses	74.33	78.24	113.66	119.31	79.38	82.38
Gross value of production less cash expenses	20.69	25.53	-15.37	-3.91	34.22	34.00
Harvest-period price (dollars/bu.)	1.01	1.06	0.97	1.25	1.10	1.02
Yield (bu./planted acre)	61.55	66.13	56.80	56.90	62.05	68.53

Appendix table 14b--Oats production economic costs and returns, excluding direct Government payments, 1999-2000 1/

Item	United States		Northeast		North Central	
	1999	2000	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre					
Oats	62.17	70.10	55.10	71.13	68.26	69.90
Oats straw	32.85	33.67	43.19	44.27	45.34	46.48
Total, gross value of production	95.02	103.77	98.29	115.40	113.60	116.38
Economic (full ownership) costs:						
Variable cash expenses	48.05	50.75	77.43	81.46	48.02	49.53
General farm overhead	5.94	6.09	8.86	9.08	5.08	5.21
Taxes and insurance	14.85	15.60	22.10	23.21	20.15	21.16
Capital replacement	17.90	17.44	18.26	17.41	12.47	12.22
Operating capital	1.05	1.37	1.84	2.38	1.14	1.45
Nonland capital	10.14	9.28	11.34	10.37	9.82	8.99
Land	27.99	28.01	6.04	6.04	37.30	37.32
Unpaid labor	18.40	19.22	24.17	26.39	23.27	24.12
Total, economic costs	144.32	147.76	170.04	176.34	157.25	160.00
Residual returns to management and risk	-49.30	-43.99	-71.75	-60.95	-43.66	-43.62
Harvest-period price (dollars/bu.)	1.01	1.06	0.97	1.25	1.10	1.02
Yield (bu./planted acre)	61.55	66.13	56.80	56.90	62.05	68.53

1/ Survey base year 1994. 2/ Includes cost of baling.

Source: Economic Research Service, USDA.

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Appendix table 14a--Oats production cash costs and returns, excluding Direct Government payments, 1999-2000

Item	Northern Plains	
	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre	
Oats	53.92	65.63
Oats straw	9.15	9.38
Total, gross value of production	63.07	75.01
Cash expenses:		
Seed	3.93	4.44
Fertilizer, lime, and gypsum	7.72	7.99
Chemicals	2.30	2.29
Custom operations	2.42	2.43
Fuel, lube, and electricity	7.95	11.45
Repairs	12.96	12.70
Hired labor	0.40	0.44
Other variable cash expenses 2/	0.41	0.42
Total, variable cash expenses	38.09	42.16
General farm overhead	3.61	3.70
Taxes and insurance	7.75	8.14
Interest	5.10	5.39
Total, fixed cash expenses	16.46	17.23
Total, cash expenses	54.55	59.39
Gross value of production less cash expenses	8.52	15.62
Harvest-period price (dollars/bu.)	0.91	1.04
Yield (bu./planted acre)	59.25	63.11

Appendix table 14b--Oats production economic costs and returns, excluding Direct Government payments, 1999-2000

Item	Northern Plains	
	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre	
Oats	53.92	65.63
Oats straw	9.15	9.38
Total, gross value of production	63.07	75.01
Economic (full ownership) costs:		
Variable cash expenses	38.09	42.16
General farm overhead	3.61	3.70
Taxes and insurance	7.75	8.14
Capital replacement	23.00	22.55
Operating capital	0.91	1.23
Nonland capital	10.47	9.58
Land	22.58	22.59
Unpaid labor	11.80	12.29
Total, economic costs	118.21	122.24
Residual returns to management and risk	-55.14	-47.23
Harvest-period price (dollars/bu.)	0.91	1.04
Yield (bu./planted acre)	59.25	63.11

1/ Survey base year 1994. 2/ Includes cost of baling.

Source: Economic Research Service, USDA.

Appendix

Appendix table 15a--Rice production cash costs and returns, excluding direct Government payments, 1999-2000

Item	United States		Arkansas (non-Delta)		Mississippi River Delta	
	1999	2000	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre					
Rice	373.84	349.27	389.94	354.50	384.47	341.77
Total, gross value of production	373.84	349.27	389.94	354.50	384.47	341.77
Cash expenses:						
Seed	24.34	22.11	22.21	22.47	24.47	20.75
Fertilizer	43.93	46.68	35.75	40.94	38.13	39.68
Chemicals	68.78	67.40	65.62	64.30	67.19	65.85
Custom operations 2/	45.45	45.56	33.58	33.43	34.20	33.52
Fuel, lube, and electricity	61.39	88.80	59.05	88.59	67.21	99.26
Repairs	30.03	29.39	30.01	29.04	27.32	26.14
Hired labor	39.74	41.99	35.83	37.86	34.97	36.96
Drying 3/	29.35	31.24	26.30	27.09	12.53	12.91
Other variable cash expenses 4/	12.52	12.95	2.25	2.33	1.01	1.05
Total, variable cash expenses	355.53	386.12	310.60	346.05	307.03	336.12
General farm overhead	26.60	27.26	16.04	16.44	14.67	15.04
Taxes and insurance	25.50	33.41	19.56	26.03	17.16	22.49
Interest	26.60	28.11	26.16	27.64	22.89	24.18
Total, fixed cash expenses	78.70	88.78	61.76	70.11	54.72	61.71
Total, cash expenses	434.23	474.90	372.36	416.16	361.75	397.83
Gross value of production less cash expenses	-60.39	-125.63	17.58	-61.66	22.72	-56.06
Harvest-period price (dollars/cwt.)	6.36	5.60	6.32	5.58	6.49	5.60
Yield (cwt./planted acre)	58.78	62.37	61.70	63.53	59.24	61.03

Appendix table 15b--Rice production economic costs and returns, excluding direct Government payments, 1999-2000

Item	United States		Arkansas (non-Delta)		Mississippi River Delta	
	1999	2000	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre					
Rice	373.84	349.27	389.94	354.50	384.47	341.77
Total, gross value of production	373.84	349.27	389.94	354.50	384.47	341.77
Economic (full ownership) costs:						
Variable cash expenses	355.53	386.12	310.60	346.05	307.03	336.12
General farm overhead	26.60	27.26	16.04	16.44	14.67	15.04
Taxes and insurance	25.50	33.41	19.56	26.03	17.16	22.49
Capital replacement	62.03	60.70	60.46	58.51	54.93	52.56
Operating capital	8.47	11.31	7.39	10.12	7.31	9.83
Other nonland capital	18.16	18.22	19.48	19.54	17.38	17.43
Land	143.97	144.91	130.64	131.46	128.04	128.89
Unpaid labor	30.78	31.23	31.78	33.59	19.46	20.64
Total, economic costs	671.04	713.16	595.95	641.74	565.98	603.00
Residual returns to management and risk	-297.20	-363.89	-206.01	-287.24	-181.51	-261.23
Harvest-period price (dollars/cwt.)	6.36	5.60	6.32	5.58	6.49	5.60
Yield (cwt./planted acre)	58.78	62.37	61.70	63.53	59.24	61.03

1/ Gulf Coast includes Southwest Louisiana, Upper and Lower Texas Coast. 2/ Cost of custom operations and technical services.

3/ Commercial drying only, beginning in 1992. 4/ Cost of purchased irrigation water.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 15a--Rice production cash costs and returns, excluding direct Government payments, 1999-2000 -- continued

Item	Gulf Coast 1/		California	
	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre			
Rice	403.51	339.54	390.85	414.45
Total, gross value of production	403.51	339.54	390.85	414.45
Cash expenses:				
Seed	25.20	20.84	26.81	24.97
Fertilizer	47.22	48.84	61.45	62.87
Chemicals	63.29	62.02	84.32	82.63
Custom operations 2/	39.84	39.95	89.16	90.75
Fuel, lube, and electricity	59.00	89.16	61.72	75.55
Repairs	27.81	26.94	36.63	37.60
Hired labor	41.62	43.98	50.19	53.04
Drying 3/	29.65	31.67	55.58	61.23
Other variable cash expenses 4/	21.42	22.14	33.08	34.20
Total, variable cash expenses	355.05	385.54	498.94	522.84
General farm overhead	20.14	20.64	69.98	71.72
Taxes and insurance	21.48	28.94	52.51	66.88
Interest	23.88	25.23	35.93	37.96
Total, fixed cash expenses	65.50	74.81	158.42	176.56
Total, cash expenses	420.55	460.35	657.36	699.40
Gross value of production less cash expenses	-17.04	-120.81	-266.51	-284.95
Harvest-period price (dollars/cwt.)	7.26	5.75	5.36	5.16
Yield (cwt./planted acre)	55.58	59.05	72.92	80.32

Appendix table 15b--Rice production economic costs and returns, excluding direct Government payments, 1999-2000 -- continued

Item	Gulf Coast 1/		California	
	1999	2000	1999	2000
Gross value of production (excluding direct Government payments):	Dollars per planted acre			
Rice	403.51	339.54	390.85	414.45
Total, gross value of production	403.51	339.54	390.85	414.45
Economic (full ownership) costs:				
Variable cash expenses	355.05	385.54	498.94	522.84
General farm overhead	20.14	20.64	69.98	71.72
Taxes and insurance	21.48	28.94	52.51	66.88
Capital replacement	59.26	57.28	77.73	79.77
Operating capital	8.49	11.33	11.88	15.29
Other nonland capital	18.04	18.09	16.92	16.98
Land	101.39	102.11	248.69	250.24
Unpaid labor	39.13	36.61	31.28	32.59
Total, economic costs	622.98	660.54	1,007.93	1,056.31
Residual returns to management and risk	-219.47	-321.00	-617.08	-641.86
Harvest-period price (dollars/cwt.)	7.26	5.75	5.36	5.16
Yield (cwt./planted acre)	55.58	59.05	72.92	80.32

1/ Gulf Coast includes Southwest Louisiana, Upper and Lower Texas Coast. 2/ Cost of custom operations and technical services. 3/ Commercial drying only, beginning in 1992. 4/ Cost of purchased irrigation water.

Source: Economic Research Service, USDA.

Appendix

Appendix table 16--Peanut production costs and returns, 1999-2000

Item	United States		Southern Seaboard			
	1999	2000	AL, GA 1999	AL, GA 2000	VA, NC 1999	VA,NC 2000
Dollars per planted acre						
Gross value of production:						
Primary product: Peanuts	613.34	539.19	631.02	602.37	715.40	785.16
Secondary product: Peanut hay	11.27	12.70	8.15	8.42	9.37	8.82
Total, gross value of production	624.61	551.89	639.17	610.79	724.77	793.98
Operating costs:						
Seed	72.89	72.71	75.02	75.98	90.19	90.02
Fertilizer	39.49	37.25	49.04	47.84	44.04	43.40
Chemicals	97.92	93.00	117.03	115.91	146.30	145.23
Custom operations	9.63	7.83	9.55	8.89	4.85	5.64
Fuel, lube, and electricity	33.25	46.46	25.06	35.04	28.19	30.75
Repairs	27.74	28.62	27.14	27.61	25.70	25.92
Interest on operating inputs	7.01	8.64	7.55	9.46	8.08	9.98
Commercial drying	17.00	13.61	18.12	16.67	4.20	5.08
Total, operating costs	304.93	308.12	328.51	337.40	351.55	356.02
Allocated overhead:						
Hired labor	37.72	39.10	36.77	38.38	52.69	52.43
Opportunity cost of unpaid labor	85.64	89.75	77.65	81.36	80.59	83.73
Capital recovery of machinery and equipment	121.91	122.62	117.69	117.05	117.05	114.60
Opportunity cost of land	45.49	38.28	35.83	31.75	42.82	43.27
Quota rent	87.66	80.42	98.64	98.28	80.66	80.57
Taxes and insurance	19.66	20.57	21.49	22.77	19.67	20.81
General farm overhead	17.51	18.65	13.19	13.67	17.47	17.90
Total, allocated overhead	415.59	409.39	401.26	403.26	410.95	413.31
Total costs listed	720.52	717.51	729.77	740.66	762.50	769.33
Value of production less total costs listed	-95.91	-165.62	-90.60	-129.87	-37.73	24.65
Value of production less operating costs	319.68	243.77	310.66	273.39	373.22	437.96
Supporting information:						
Peanut yield: lbs/acre	2,359	1,997	2,427	2,231	2,555	2,908
Peanut price: dollars/lb	0.26	0.27	0.26	0.27	0.28	0.27
Production practices: 1/						
Irrigated (percent)	32	32	25	25	6	6
Dryland (percent)	68	68	75	75	94	94
Land tenure: 1/						
Acres owned (percent)	35	35	37	37	23	23
Acres cash rented (percent)	55	55	61	61	63	63
Acres share rented (percent)	10	10	2	2	14	14
Land rent basis 2/	Composite	Composite	Cash	Cash	Cash	Cash

1/ Developed from survey base year, 1995. 2/ Method used to determine the opportunity cost of land.

Source: Economic Research Service, USDA.

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Appendix table 16—Peanut production costs and returns, 1999-2000 – continued

Item	Prairie Gateway	
	1999	2000
	Dollars per planted acre	
Gross value of production:		
Primary product: Peanuts	455.62	338.85
Secondary product: Peanut hay	18.46	20.99
Total, gross value of production	474.08	359.84
Operating costs:		
Seed	60.22	60.65
Fertilizer	21.14	20.83
Chemicals	39.78	39.46
Custom operations	11.59	6.90
Fuel, lube, and electricity	45.76	62.41
Repairs	29.91	31.23
Interest on operating inputs	5.39	6.74
Commercial drying	20.67	12.36
Total, operating costs	234.46	240.58
Allocated overhead:		
Hired labor	26.04	28.06
Opportunity cost of unpaid labor	102.51	104.01
Capital recovery of machinery and equipment	131.39	133.12
Opportunity cost of land	70.32	49.72
Quota rent	62.06	44.51
Taxes and insurance	15.03	15.94
General farm overhead	23.10	23.67
Total, allocated overhead	430.45	399.03
Total costs listed	664.91	639.61
Value of production less total costs listed	-190.83	-279.77
Value of production less operating costs	239.62	119.26
Supporting information:		
Peanut yield: lbs/acre	2,071	1,255
Peanut price: dollars/lb	0.22	0.27
Production practices: 1/		
Irrigated (percent)	64	64
Dryland (percent)	36	36
Land tenure: 1/		
Acres owned (percent)	35	35
Acres cash rented (percent)	38	38
Acres share rented (percent)	25	25
Land rent basis 2/	Share	Share

1/ Developed from survey base year, 1995. 2/ Method used to determine the opportunity cost of land.

Source: Economic Research Service, USDA.

Appendix

Appendix table 17a--Sugar beet production cash costs and returns, 1999-2000 1/

Item	United States		Great Lakes		Red River Valley	
	1999	2000	1999	2000	1999	2000
Gross value of production:	Dollars per planted acre					
Beets	804.46	785.63	591.71	583.84	739.11	712.36
Beet tops	0.53	0.49	0.00	0.00	0.00	0.00
Total, gross value of production	804.99	786.12	591.71	583.84	739.11	712.36
Cash expenses:						
Seed	44.19	42.92	25.57	24.80	45.55	44.18
Fertilizer	59.88	59.33	63.89	64.40	33.83	32.72
Chemicals	72.64	70.11	58.91	57.27	70.62	68.06
Custom operations	38.19	36.98	30.31	29.92	24.79	25.32
Fuel and lubrication	39.85	49.33	24.49	35.50	19.18	26.42
Repairs	44.93	45.48	35.23	36.14	34.38	34.22
Hired labor	118.14	124.42	73.45	78.54	84.88	90.51
Purchased irrigation water	9.13	9.21	0.00	0.00	0.04	0.05
Freight and dirt hauling charges	17.07	21.11	7.49	11.48	10.85	14.15
Miscellaneous	12.80	13.82	4.31	4.90	15.77	17.78
Hauling allowance (-)	8.94	10.55	2.75	4.22	10.36	13.21
Total, variable cash expenses	447.88	462.16	320.90	338.73	329.53	340.20
General farm overhead	37.43	38.09	39.76	40.80	29.48	30.20
Taxes and insurance	45.27	46.28	65.44	67.26	40.76	41.81
Interest	53.99	56.99	58.73	62.12	49.59	52.38
Total, fixed cash expenses	136.69	141.36	163.93	170.18	119.83	124.39
Total, cash expenses	584.57	603.52	484.83	508.91	449.36	464.59
Gross value of production less cash expenses	220.42	182.60	106.88	74.93	289.75	247.77
Season-average price (dollars/ton)	37.33	37.50	32.80	32.80	37.16	37.16
Yield (net tons/planted acre) 2/	21.55	20.95	18.04	17.80	19.89	19.17

Appendix table 17b--Sugar beet production economic costs and returns, 1999-00 1/

Item	United States		Great Lakes		Red River Valley	
	1999	2000	1999	2000	1999	2000
Gross value of production:	Dollars per planted acre					
Beets	804.46	785.63	591.71	583.84	739.11	712.36
Beet tops	0.53	0.49	0.00	0.00	0.00	0.00
Total, gross value of production	804.99	786.12	591.71	583.84	739.11	712.36
Economic (full ownership) costs:						
Variable cash expenses	447.88	462.16	320.90	338.73	329.53	340.20
General farm overhead	37.43	38.09	39.76	40.80	29.48	30.20
Taxes and insurance	45.27	46.28	65.44	67.26	40.76	41.81
Capital replacement	59.65	60.57	46.03	47.23	45.16	44.94
Operating capital	10.66	13.52	7.64	9.91	7.84	9.95
Nonland capital	28.65	26.48	28.99	27.23	20.78	18.93
Land	144.07	140.99	113.30	113.45	135.09	135.86
Coop share	23.73	29.76	0.00	0.00	50.42	61.96
Unpaid labor	55.20	58.58	73.11	78.20	40.70	43.39
Total, economic costs	852.54	876.43	695.17	722.81	699.76	727.24
Residual returns to management and risk	-47.55	-90.32	-103.46	-138.97	39.35	-14.88
Season-average price (dollars/ton)	37.33	37.50	32.80	32.80	37.16	37.16
Yield (net tons/planted acre) 2/	21.55	20.95	18.04	17.80	19.89	19.17

1/ 1999 estimates are revised. 2000 estimates are preliminary. Sugar beet prices are held at the 1999 level because State-level prices for the 2000 season will not be available before January 2002. 2/ Yields are those reported in USDA's 1992 Farm Costs and Returns Survey of sugarbeet growers adjusted for year-over-year changes as reported by NASS/USDA in *Crop Production, 1999 Summary*, January 2000.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 17a--Sugar beet production cash costs and returns, 1999-2000 1/ -- continued

Item	Great Plains		Northwest		Southwest	
	1999	2000	1999	2000	1999	2000
Gross value of production:	Dollars per planted acre					
Beets	727.94	636.08	1,058.63	1,173.15	1,269.97	1,253.78
Beet tops	2.64	2.40	0.04	0.04	0.71	0.63
Total, gross value of production	730.58	638.48	1,058.67	1,173.19	1,270.68	1,254.41
Cash expenses:						
Seed	49.34	47.82	47.07	45.74	49.44	47.94
Fertilizer	73.32	73.80	101.98	104.51	101.54	102.89
Chemicals	73.65	71.28	81.32	78.67	89.59	87.12
Custom operations	21.68	20.48	36.32	38.72	185.22	181.79
Fuel and lubrication	49.52	61.89	94.79	111.04	63.13	68.80
Repairs	61.35	59.41	64.11	69.95	50.12	51.29
Hired labor	122.83	129.29	210.39	225.61	210.27	219.08
Purchased irrigation water	13.53	13.95	29.36	30.57	31.50	32.63
Freight and dirt hauling charges	17.11	22.23	13.57	22.57	82.15	85.55
Miscellaneous	6.16	6.64	5.69	5.78	39.94	40.63
Hauling allowance (-)	1.52	1.93	1.44	2.34	44.91	46.77
Total, variable cash expenses	486.97	504.86	683.16	730.82	857.99	870.95
General farm overhead	43.38	44.16	45.97	47.08	52.55	53.85
Taxes and insurance	43.31	44.55	39.34	40.39	56.22	57.96
Interest	62.57	65.83	55.67	58.77	49.40	52.20
Total, fixed cash expenses	149.26	154.54	140.98	146.24	158.17	164.01
Total, cash expenses	636.23	659.40	824.14	877.06	1,016.16	1,034.96
Gross value of production less cash expenses	94.35	-20.92	234.53	296.13	254.52	219.45
Season-average price (dollars/ton)	35.93	36.10	42.21	42.23	36.80	36.80
Yield (net tons/planted acre) 2/	20.26	17.62	25.08	27.78	34.51	34.07

Appendix table 17b--Sugar beet production economic costs and returns, 1999-00 1/ -- continued

Item	Great Plains		Northwest		Southwest	
	1999	2000	1999	2000	1999	2000
Gross value of production:	Dollars per planted acre					
Beets	727.94	636.08	1,058.63	1,173.15	1,269.97	1,253.78
Beet tops	2.64	2.40	0.04	0.04	0.71	0.63
Total, gross value of production	730.58	638.48	1,058.67	1,173.19	1,270.68	1,254.41
Economic (full ownership) costs:						
Variable cash expenses	486.97	504.86	683.16	730.82	857.99	870.95
General farm overhead	43.38	44.16	45.97	47.08	52.55	53.85
Taxes and insurance	43.31	44.55	39.34	40.39	56.22	57.96
Capital replacement	80.93	78.48	91.89	100.63	57.98	59.33
Operating capital	11.59	14.77	16.26	21.38	20.42	25.47
Nonland capital	40.99	36.26	38.27	38.07	28.56	26.75
Land	115.84	92.64	197.86	208.19	215.33	215.57
Coop share	0.00	0.00	0.00	0.00	0.00	0.00
Unpaid labor	92.01	96.43	52.29	55.14	32.52	33.88
Total, economic costs	915.02	912.15	1,165.04	1,241.70	1,321.57	1,343.76
Residual returns to management and risk	-184.44	-273.67	-106.37	-68.51	-50.89	-89.35
Season-average price (dollars/ton)	35.93	36.10	42.21	42.23	36.80	36.80
Yield (net tons/planted acre) 2/	20.26	17.62	25.08	27.78	34.51	34.07

1/ 1999 estimates are revised. 2000 estimates are preliminary. Sugar beet prices are held at the 1999 level because State-level prices for the 2000 season will not be available before January 2002. 2/ Yields are those reported in USDA's 1992 Farm Costs and Returns Survey of sugarbeet growers adjusted for year-over-year changes as reported by NASS/USDA in *Crop Production, 1999 Summary*, January 2000. Source: Economic Research Service, USDA.

Appendix

Appendix table 18a--U.S. flue-cured tobacco production costs and returns, 1999-2000

Item	1999	2000	1999	2000
	Dollars per acre		Dollars per cwt	
Gross value of production				
Tobacco	3,744.48	4,283.47	173.70	179.30
Total, gross value of production	3,744.48	4,283.47	173.70	179.30
Cash expenses:				
Seed and plant bed	63.46	60.07	2.95	2.51
Fertilizer	282.66	273.93	13.13	11.45
Chemicals	218.38	216.58	10.15	9.05
Custom operations	7.86	7.79	0.37	0.33
Fuel, lube, and electricity	62.94	90.69	2.92	3.79
Curing fuel	325.72	477.38	15.14	19.95
Repairs	112.53	115.32	5.23	4.82
Hired labor	582.09	594.35	27.05	24.84
Marketing expenses	160.76	187.24	7.47	7.82
Other variable cash expenses	3.81	3.98	0.18	0.17
Total, variable cash expenses	1,820.21	2,027.33	84.59	84.72
General farm overhead	184.80	189.38	8.59	7.91
Taxes and insurance	141.26	142.27	6.56	5.95
Interest	164.71	174.03	7.65	7.27
Total, fixed cash expenses	490.77	505.68	22.80	21.13
Total, cash expenses	2,310.98	2,533.01	107.39	105.85
Gross value of production less cash expenses	1,433.50	1,750.46	66.31	73.45

Appendix table 18b--U.S. flue-cured tobacco production economic costs and returns, 1999-2000

Item	1999	2000	1999	2000
	Dollars per acre		Dollars per cwt	
Gross value of production				
Tobacco	3,744.48	4,283.47	173.70	179.30
Total, gross value of production	3,744.48	4,283.47	173.70	179.30
Economic (full ownership) costs:				
Variable cash expenses	1,820.21	2,027.33	84.59	84.72
General farm overhead	184.80	189.38	8.59	7.91
Taxes and insurance	141.26	142.27	6.56	5.95
Capital replacement	295.02	313.34	13.71	13.09
Operating capital	43.32	59.30	2.01	2.48
Other nonland capital	79.19	77.52	3.68	3.24
Land and quota	1,131.93	1,370.37	52.60	57.27
Unpaid labor	236.19	241.16	10.98	10.08
Total, economic (full ownership) costs	3,931.92	4,420.67	182.72	184.74
Residual returns to management and risk	-187.44	-137.20	-9.02	-5.44
Harvest-period price (dollars/lb. or cwt)	1.74	1.79	173.70	179.30
Yield (lb. or cwt/harvested acre)	2,152	2,393	21.52	23.93

Source: Economic Research Service, USDA.

Appendix

Appendix table 19a--U.S. burley tobacco production costs and returns, 1999-2000

Item	1999	2000	1999	2000
	Dollars per acre		Dollars per cwt	
Gross value of production				
Tobacco	3,471.30	3,981.37	189.87	196.55
Total, gross value of production	3,471.30	3,981.37	189.87	196.55
Cash expenses:				
Seed and plant bed	98.33	102.61	5.38	5.08
Fertilizer	290.96	288.81	15.93	14.29
Chemicals	99.47	98.65	5.44	4.88
Custom operations	13.35	13.35	0.73	0.66
Fuel, lube, and electricity	66.88	96.36	3.66	4.77
Curing fuel	1/	1/	1/	1/
Repairs	74.08	75.92	4.05	3.76
Hired labor	497.01	499.76	27.20	24.73
Marketing expenses	161.32	152.65	8.83	7.55
Other variable cash expenses	19.88	20.78	1.09	1.03
Total, variable cash expenses	1,321.28	1,348.89	72.31	66.75
General farm overhead	206.27	211.38	11.29	10.46
Taxes and insurance	45.45	46.19	2.49	2.29
Interest	74.57	78.79	4.08	3.90
Total, fixed cash expenses	326.29	336.36	17.86	16.65
Total, cash expenses	1,647.57	1,685.25	90.17	83.40
Gross value of production less cash expenses	1,823.73	2,296.12	99.70	113.15

Appendix table 19b--U.S. burley tobacco production economic costs and returns, 1999-2000

Item	1999	2000	1999	2000
	Dollars per acre		Dollars per cwt	
Gross value of production				
Tobacco	3,471.30	3,981.37	189.87	196.55
Total, gross value of production	3,471.30	3,981.37	189.87	196.55
Economic (full ownership) costs:				
Variable cash expenses	1,321.28	1,348.89	72.31	66.75
General farm overhead	206.27	211.38	11.29	10.46
Taxes and insurance	45.45	46.19	2.49	2.29
Capital replacement	104.27	134.13	5.71	6.64
Operating capital	31.45	39.46	1.72	1.95
Other nonland capital	102.80	94.08	5.63	4.66
Land and quota	633.44	991.31	34.67	49.05
Unpaid labor	689.53	693.35	37.74	34.31
Total, economic (full ownership) costs	3,134.49	3,558.79	171.56	176.11
Residual returns to management and risk	336.81	422.58	18.31	20.44
Harvest-period price (dollars/lb. or cwt)	1.90	1.97	189.87	196.55
Yield (lb. or cwt/harvested acre)	1,827	2,021	18.27	20.21

1/ Burley curing fuel costs are included in fuel, lube, and electricity expenses.

Source: Economic Research Service, USDA.

Appendix

Appendix table 20a--Milk production cash costs and returns, per cwt sold, 1999-2000

Item	United States		Corn Belt		Northeast	
	1999	2000	1999	2000	1999	2000
Gross value of production:						
Milk	14.39	12.43	14.29	12.16	15.19	13.41
Cattle	0.90	0.95	1.12	1.19	0.80	0.84
Other income	0.54	0.54	0.46	0.46	0.41	0.42
Total, gross value of production	15.83	13.92	15.87	13.81	16.40	14.67
Cash expenses:						
Feed--Concentrates	3.70	3.62	4.13	4.06	3.58	3.56
By-products	0.23	0.23	0.29	0.30	0.04	0.04
Liquid whey	0.10	0.10	0.18	0.18	0.10	0.10
Hay	1.43	1.36	1.64	1.55	1.68	1.58
Silage	1.27	1.20	1.23	1.16	2.27	2.17
Pasture and other forage	0.10	0.10	0.12	0.13	0.04	0.03
Total, feed costs	6.83	6.61	7.59	7.38	7.71	7.48
Other--Hauling	0.46	0.46	0.46	0.47	0.70	0.65
Artificial insemination	0.15	0.15	0.12	0.13	0.20	0.19
Veterinary and medicine	0.40	0.40	0.41	0.43	0.46	0.42
Bedding and litter	0.25	0.26	0.32	0.32	0.37	0.37
Marketing	0.38	0.37	0.32	0.33	0.47	0.43
Custom services and supplies	0.44	0.44	0.40	0.41	0.56	0.53
Fuel, lube, and electricity	0.49	0.60	0.51	0.64	0.62	0.77
Repairs	0.87	0.91	1.01	1.04	1.02	1.07
Hired labor	0.55	0.52	0.52	0.50	0.53	0.50
DHIA fees	0.08	0.08	0.07	0.07	0.10	0.09
Total, variable cash expenses	10.90	10.80	11.73	11.72	12.74	12.50
General farm overhead	0.60	0.59	0.64	0.62	0.60	0.59
Taxes and insurance	0.31	0.31	0.28	0.28	0.41	0.41
Interest	0.98	0.99	0.82	0.82	0.90	0.90
Total, fixed cash expenses	1.89	1.89	1.74	1.72	1.91	1.90
Total, cash expenses	12.79	12.69	13.47	13.44	14.65	14.40
Gross value of production less cash expenses	3.04	1.23	2.40	0.37	1.75	0.27

Appendix table 20b--Milk production economic costs and returns, per cwt sold, 1999-2000

Item	United States		Corn Belt		Northeast	
	1999	2000	1999	2000	1999	2000
Gross value of production:						
Milk	14.39	12.43	14.29	12.16	15.19	13.41
Cattle	0.90	0.95	1.12	1.19	0.80	0.84
Other income	0.54	0.54	0.46	0.46	0.41	0.42
Total, gross value of production	15.83	13.92	15.87	13.81	16.40	14.67
Economic (full-ownership) costs:						
Variable cash expenses	10.90	10.80	11.73	11.72	12.74	12.50
General farm overhead	0.60	0.59	0.64	0.62	0.60	0.59
Taxes and insurance	0.31	0.31	0.28	0.28	0.41	0.41
Capital replacement	2.18	2.26	2.25	2.32	2.12	2.20
Operating capital	0.09	0.11	0.09	0.12	0.10	0.12
Other nonland capital	0.85	0.81	0.84	0.79	0.80	0.75
Land	0.01	0.01	0.01	0.01	0.00	0.00
Unpaid labor	1.59	1.51	2.54	2.46	2.23	2.09
Total, economic (full-ownership) costs	16.53	16.40	18.38	18.32	19.00	18.66
Residual returns to management and risk	-0.70	-2.48	-2.51	-4.51	-2.60	-3.99

Source: Economic Research Service, USDA.

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Appendix

Appendix table 20a--Milk production cash costs and returns, per cwt sold, 1999-2000 -- continued

Item	Pacific		Southeast		Southern Plains	
	1999	2000	1999	2000	1999	2000
Gross value of production:						
Milk	13.77	11.81	16.76	14.69	15.00	13.40
Cattle	0.64	0.68	0.98	1.03	0.92	0.97
Other income	0.55	0.54	0.50	0.49	0.35	0.36
Total, gross value of production	14.96	13.03	18.24	16.21	16.27	14.73
Cash expenses:						
Feed--Concentrates	3.04	2.92	5.10	4.73	4.97	5.00
By-products	0.52	0.53	0.50	0.48	0.18	0.17
Liquid whey	0.03	0.03	0.04	0.04	0.01	0.01
Hay	2.09	2.07	0.72	0.57	2.01	2.14
Silage	0.86	0.87	1.03	0.80	0.10	0.11
Pasture and other forage	0.05	0.05	0.06	0.07	0.10	0.09
Total, feed costs	6.59	6.47	7.45	6.69	7.37	7.52
Other--Hauling	0.41	0.41	0.94	0.87	0.57	0.55
Artificial insemination	0.12	0.12	0.12	0.11	0.04	0.04
Veterinary and medicine	0.21	0.21	0.48	0.44	0.19	0.19
Bedding and litter	0.06	0.06	0.00	0.00	0.00	0.00
Marketing	0.46	0.46	0.52	0.48	0.26	0.25
Custom services and supplies	0.41	0.42	0.64	0.59	0.30	0.29
Fuel, lube, and electricity	0.28	0.30	0.31	0.37	0.43	0.54
Repairs	0.34	0.35	0.70	0.72	0.49	0.50
Hired labor	0.51	0.49	1.21	1.16	0.67	0.63
DHIA fees	0.07	0.07	0.06	0.05	0.05	0.04
Total, variable cash expenses	9.46	9.36	12.43	11.48	10.37	10.55
General farm overhead	0.38	0.37	0.72	0.70	0.51	0.50
Taxes and insurance	0.12	0.12	0.34	0.33	0.16	0.15
Interest	0.73	0.73	0.68	0.70	0.69	0.69
Total, fixed cash expenses	1.23	1.22	1.74	1.73	1.36	1.34
Total, cash expenses	10.69	10.58	14.17	13.21	11.73	11.89
Gross value of production less cash expenses	4.27	2.45	4.07	3.00	4.54	2.84

Appendix table 20b--Milk production economic costs and returns, per cwt sold, 1999-2000 -- continued

Item	Pacific		Southeast		Southern Plains	
	1999	2000	1999	2000	1999	2000
Gross value of production:						
Milk	13.77	11.81	16.76	14.69	15.00	13.40
Cattle	0.64	0.68	0.98	1.03	0.92	0.97
Other income	0.55	0.54	0.50	0.49	0.35	0.36
Total, gross value of production	14.96	13.03	18.24	16.21	16.27	14.73
Economic (full-ownership) costs:						
Variable cash expenses	9.46	9.36	12.43	11.48	10.37	10.55
General farm overhead	0.38	0.37	0.72	0.70	0.51	0.50
Taxes and insurance	0.12	0.12	0.34	0.33	0.16	0.15
Capital replacement	1.44	1.51	2.66	2.74	2.13	2.21
Operating capital	0.07	0.09	0.10	0.11	0.08	0.10
Other nonland capital	0.57	0.56	1.49	1.39	0.81	0.76
Land	0.01	0.01	0.00	0.00	0.00	0.00
Unpaid labor	0.43	0.41	0.29	0.29	0.77	0.72
Total, economic (full-ownership) costs	12.48	12.43	18.03	17.04	14.83	14.99
Residual returns to management and risk	2.48	0.60	0.21	-0.83	1.44	-0.26

Source: Economic Research Service, USDA.

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Appendix table 20a--Milk production cash costs and returns, per cwt

Item	Upper Midwest	
	1999	2000
Gross value of production:		
Milk	13.97	11.91
Cattle	1.03	1.07
Other income	0.66	0.67
Total, gross value of production	15.66	13.65
Cash expenses:		
Feed--Concentrates	3.66	3.57
By-products	0.12	0.12
Liquid whey	0.13	0.12
Hay	0.80	0.73
Silage	1.15	1.04
Pasture and other forage	0.15	0.16
Total, feed costs	6.01	5.74
Other--Hauling	0.29	0.30
Artificial insemination	0.17	0.18
Veterinary and medicine	0.50	0.52
Bedding and litter	0.34	0.35
Marketing	0.29	0.30
Custom services and supplies	0.39	0.41
Fuel, lube, and electricity	0.56	0.69
Repairs	1.14	1.19
Hired labor	0.49	0.45
DHIA fees	0.08	0.08
Total, variable cash expenses	10.26	10.21
General farm overhead	0.73	0.72
Taxes and insurance	0.39	0.39
Interest	1.33	1.34
Total, fixed cash expenses	2.45	2.45
Total, cash expenses	12.71	12.66
Gross value of production less cash expenses	2.95	0.99

Appendix table 20b--Milk production economic costs and returns,

Item	Upper Midwest	
	1999	2000
Gross value of production:		
Milk	13.97	11.91
Cattle	1.03	1.07
Other income	0.66	0.67
Total, gross value of production	15.66	13.65
Economic (full-ownership) costs:		
Variable cash expenses	10.26	10.21
General farm overhead	0.73	0.72
Taxes and insurance	0.39	0.39
Capital replacement	2.57	2.67
Operating capital	0.09	0.10
Other nonland capital	0.99	0.94
Land	0.01	0.01
Unpaid labor	1.86	1.72
Total, economic (full-ownership) costs	16.90	16.76
Residual returns to management and risk	-1.24	-3.11

Source: Economic Research Service, USDA.

Appendix

Appendix table 21--Hog production costs and returns per hundredweight gain, 1999-00

Item	United States		Heartland		Northern Crescent		Northern Great Plains	
	1999	2000	1999	2000	1999	2000	1999	2000
Gross value of production	Dollars per cwt gain ^{1/}							
Market hogs	29.21	40.92	29.61	41.58	28.12	39.15	31.14	43.73
Feeder pigs	9.72	14.30	7.82	11.39	3.99	5.89	8.01	11.58
Cull stock	0.93	1.36	0.85	1.28	1.81	2.43	0.72	0.92
Breeding stock	0.65	0.97	0.33	0.51	0.29	0.58	0.08	0.09
Inventory change	-0.17	0.66	-0.89	-0.13	-0.98	0.55	0.64	0.94
Other income ^{2/}	1.32	1.30	1.47	1.46	1.74	1.75	0.95	0.92
Total, gross value of production	12.45	59.51	39.19	56.09	34.97	50.35	41.54	58.18
Operating costs:								
Feed --								
Grain	5.07	5.00	6.46	6.42	7.27	7.61	3.10	2.77
Protein sources	4.21	4.54	5.62	6.21	5.60	6.56	1.95	2.01
Complete mixes	9.79	9.82	7.54	7.45	4.12	3.88	12.60	12.99
Other feed items ^{3/}	0.17	0.18	0.20	0.21	0.20	0.19	0.02	0.01
Other --								
Feeder pigs	11.13	16.69	9.59	14.40	7.78	11.71	17.06	25.15
Veterinary and medicine	1.04	1.08	1.14	1.21	0.93	0.96	0.81	0.84
Bedding and litter	0.03	0.03	0.04	0.04	0.02	0.02	0.02	0.01
Marketing	0.97	1.01	0.62	0.62	0.52	0.53	0.54	0.54
Custom services	0.37	0.39	0.29	0.31	0.27	0.27	0.04	0.03
Fuel, lube, and electricity	1.12	1.41	1.21	1.54	1.15	1.45	0.94	1.13
Repairs	0.76	0.75	0.86	0.86	0.81	0.79	0.47	0.42
Other operating costs ^{4/}	0.03	0.04	0.03	0.03	0.03	0.03	0.05	0.05
Interest on operating capital	0.82	1.18	0.79	1.13	0.68	0.98	0.88	1.33
Total, operating costs	35.51	42.12	34.39	40.43	29.38	34.98	38.48	47.28
Allocated overhead:								
Hired labor	2.22	2.25	2.30	2.27	2.25	2.54	0.97	1.04
Opportunity cost of unpaid labor	5.17	5.03	5.97	5.94	6.82	6.40	4.81	4.25
Capital recovery of machinery and equipment	10.09	10.34	10.45	10.73	10.98	11.02	8.64	8.44
Opportunity cost of land (rental rate)	0.05	0.05	0.05	0.05	0.07	0.06	0.02	0.02
Taxes and insurance	0.45	0.46	0.48	0.50	0.44	0.44	0.85	0.89
General farm overhead	0.94	0.96	0.98	1.00	0.95	0.91	1.30	1.33
Total, allocated overhead	18.92	19.09	20.23	20.49	21.51	21.37	16.59	15.97
Total costs listed	54.43	61.21	54.62	60.92	50.89	56.35	55.07	63.25
Value of production less total costs listed	-41.98	-1.70	-15.43	-4.83	-15.92	-6.00	-13.53	-5.07
Value of production less operating costs	-23.06	17.39	4.80	15.66	5.59	15.37	3.06	10.90
Supporting information:								
Production arrangement (percent of production) ^{5/}								
Independent	59	58	71	71	73	72	47	47
Under contract	41	42	29	29	27	28	53	53
Size of operation (head sold/removed) ^{5/}								
Market hogs	1,726	1,872	1,522	1,607	1,032	1,182	1,776	2,437
Feeder pigs	1,224	1,330	845	875	214	251	664	900

^{1/} Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. ^{2/} Value of manure production. ^{3/} Milk replacer, milk, milk by-products, antibiotics, and other medicated additives. ^{4/} Costs for odor control and fees, permits, licenses, and other regulatory costs. ^{5/} Developed from survey base year, 1998.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 21--Hog production costs and returns per hundredweight gain, 1999-00 --
continued

Item	Prairie Gateway		Eastern Uplands		Southern Seaboard		Mississippi Portal	
	1999	2000	1999	2000	1999	2000	1999	2000
Gross value of production	Dollars per cwt gain 1/							
Market hogs	28.33	39.91	24.68	33.39	29.29	41.02	26.16	36.40
Feeder pigs	2.17	3.05	15.17	23.19	18.64	27.14	9.59	14.37
Cull stock	1.90	2.84	1.79	2.76	0.46	0.65	1.48	2.19
Breeding stock	3.25	4.92	2.96	4.49	0.43	0.51	0.48	0.63
Inventory change	1.46	3.26	-0.66	-0.79	1.45	2.06	-1.02	0.05
Other income 2/	0.93	0.91	1.14	1.14	0.96	0.96	1.26	1.24
Total, gross value of production	38.04	54.89	45.08	64.18	51.23	72.34	37.95	54.88
Operating costs:								
Feed --								
Grain	4.90	5.45	4.70	3.91	0.70	0.59	10.27	9.21
Protein sources	3.73	3.75	2.04	1.89	0.38	0.37	4.68	4.83
Complete mixes	8.58	8.76	11.88	11.91	17.75	17.64	4.12	4.07
Other feed items 3/	0.12	0.14	0.77	0.77	0.01	0.01	0.09	0.08
Other --								
Feeder pigs	11.06	16.85	7.39	11.22	16.53	24.09	6.32	9.23
Veterinary and medicine	0.83	0.84	1.18	1.22	0.86	0.88	1.47	1.54
Bedding and litter	0.03	0.03	0.03	0.03	0.00	0.00	0.01	0.00
Marketing	0.64	0.65	1.51	1.61	2.18	2.25	0.77	0.78
Custom services	0.09	0.09	0.14	0.13	0.73	0.75	0.33	0.35
Fuel, lube, and electricity	0.90	1.12	1.59	2.09	0.81	1.04	2.20	2.77
Repairs	0.69	0.67	1.00	1.03	0.44	0.44	1.06	1.07
Other operating costs 4/	0.05	0.05	0.07	0.07	0.03	0.03	0.00	0.00
Interest on operating capital	0.74	1.11	0.76	1.03	0.95	1.39	0.74	0.98
Total, operating costs	32.36	39.51	33.06	36.91	41.37	49.48	32.06	34.91
Allocated overhead:								
Hired labor	2.77	2.87	2.37	2.46	1.72	1.76	2.80	2.97
Opportunity cost of unpaid labor	3.97	3.59	9.30	9.23	2.16	2.16	25.60	25.86
Capital recovery of machinery and equipment	10.31	10.61	12.47	12.83	8.27	8.51	24.70	25.45
Opportunity cost of land (rental rate)	0.06	0.05	0.08	0.08	0.04	0.04	0.85	0.97
Taxes and insurance	0.52	0.50	0.78	0.83	0.26	0.27	0.77	0.81
General farm overhead	1.17	1.17	1.07	1.07	0.61	0.66	2.97	3.33
Total, allocated overhead	18.80	18.79	26.07	26.50	13.06	13.40	57.69	59.39
Total costs listed	51.16	58.30	59.13	63.41	54.43	62.88	89.75	94.30
Value of production less total costs listed	-13.12	-3.41	-14.05	0.77	-3.20	9.46	-51.80	-39.42
Value of production less operating costs	5.68	15.38	12.02	27.27	9.86	22.86	5.89	19.97
Supporting information:								
Production arrangement (percent of production) 5/								
Independent	84	83	40	36	13	13	93	92
Under contract	16	17	60	64	87	87	7	8
Size of operation (head sold/removed) 5/								
Market hogs	2,012	2,276	873	935	5,074	5,516	367	380
Feeder pigs	593	655	1,464	1,651	6,652	7,221	253	268

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production. 3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives. 4/ Costs for odor control and fees, permits, licenses, and other regulatory costs. 5/ Developed from survey base year, 1998.

Source: Economic Research Service, USDA.

Appendix

Appendix table 22--Farrow-to-finish production costs and returns per hundredweight gain, 1999-00

Item	United States		Heartland		Northern Crescent		Prairie Gateway	
	1999	2000	1999	2000	1999	2000	1999	2000
Gross value of production			Dollars per cwt gain ^{1/}					
Market hogs	28.93	40.43	28.90	40.34	25.60	35.20	32.24	46.24
Feeder pigs	0.55	0.79	0.60	0.85	0.39	0.52	0.36	0.56
Cull stock	1.47	2.17	1.45	2.18	2.98	4.06	0.82	1.24
Breeding stock	0.15	0.23	0.14	0.20	0.20	0.28	0.22	0.37
Inventory change	-0.98	0.15	-1.06	0.10	-1.10	0.59	-1.07	0.49
Other income ^{2/}	1.36	1.36	1.41	1.41	1.63	1.65	0.88	0.85
Total, gross value of production	31.48	45.13	31.44	45.08	29.70	42.30	33.45	49.75
Operating costs:								
Feed --								
Grain	8.19	8.11	8.27	8.11	8.80	9.20	6.93	7.97
Protein sources	7.31	7.96	7.81	8.60	6.50	7.50	5.59	5.81
Complete mixes	4.30	4.36	4.37	4.41	2.59	2.46	3.16	3.18
Other feed items ^{3/}	0.29	0.31	0.33	0.35	0.28	0.28	0.12	0.13
Total feed cost	20.09	20.74	20.78	21.47	18.17	19.44	15.80	17.09
Other --								
Feeder pigs	0.08	0.12	0.06	0.08	0.47	0.65	0.00	0.00
Veterinary and medicine	1.43	1.47	1.56	1.63	0.93	0.93	1.33	1.34
Bedding and litter	0.04	0.04	0.05	0.05	0.02	0.02	0.04	0.05
Marketing	0.38	0.38	0.34	0.34	0.36	0.37	0.56	0.57
Custom services	0.29	0.31	0.26	0.27	0.22	0.21	0.23	0.22
Fuel, lube, and electricity	1.27	1.63	1.27	1.64	1.14	1.42	1.12	1.42
Repairs	1.10	1.10	1.16	1.17	0.86	0.82	1.02	1.01
Other operating costs ^{4/}	0.04	0.04	0.03	0.03	0.03	0.03	0.08	0.09
Interest on operating capital	0.58	0.74	0.60	0.77	0.52	0.69	0.47	0.63
Total, operating costs	25.30	26.57	26.11	27.45	22.72	24.58	20.65	22.42
Allocated overhead:								
Hired labor	2.72	2.86	2.51	2.59	2.05	2.38	3.28	3.32
Opportunity cost of unpaid labor	7.66	7.56	7.70	7.73	8.63	8.27	5.72	5.28
Capital recovery of machinery and equipment	11.44	11.79	11.25	11.63	12.05	12.11	9.62	9.57
Opportunity cost of land (rental rate)	0.07	0.07	0.06	0.06	0.09	0.09	0.09	0.07
Taxes and insurance	0.52	0.54	0.51	0.53	0.36	0.35	0.69	0.70
General farm overhead	1.19	1.27	1.06	1.10	0.88	0.85	1.07	1.06
Total, allocated overhead	23.60	24.09	23.09	23.64	24.06	24.05	20.47	20.00
Total costs listed	48.90	50.66	49.20	51.09	46.78	48.63	41.12	42.42
Value of production less total costs listed	-17.42	-5.53	-17.76	-6.01	-17.08	-6.33	-7.67	7.33
Value of production less operating costs	6.18	18.56	5.33	17.63	6.98	17.72	12.80	27.33
Supporting information:								
Production arrangement (percent of production) ^{5/}								
Independent	98	98	99	99	90	91	100	100
Under contract	2	2	1	1	10	9	0	0
Size of operation (head sold/removed) ^{5/}								
Market hogs	1,333	1,422	1,366	1,424	1,103	1,239	1,684	1,867
Feeder pigs	42	45	46	47	27	28	32	38

^{1/} Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. ^{2/} Value of manure production. ^{3/} Milk replacer, milk, milk by-products, antibiotics, and other medicated additives. ^{4/} Costs for odor control and fees, permits, licenses, and other regulatory costs. ^{5/} Developed from survey base year, 1998.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 22—Farrow-to-finish production costs and returns per hundredweight gain, 1999-00 -- continued

Item	Eastern Uplands		Southern Seaboard	
	1999	2000	1999	2000
Gross value of production	Dollars per cwt gain 1/			
Market hogs	26.95	37.19	32.76	46.24
Feeder pigs	0.61	0.84	0.19	0.24
Cull stock	0.62	0.96	0.98	1.39
Breeding stock	0.03	0.05	0.26	0.40
Inventory change	-1.07	-0.79	-0.45	-0.46
Other income 2/	1.08	1.06	1.16	1.14
Total, gross value of production	28.22	39.31	34.90	48.95
Operating costs:				
Feed --				
Grain	8.18	7.04	7.71	6.41
Protein sources	4.21	4.04	4.37	4.24
Complete mixes	5.12	5.51	9.63	10.36
Other feed items 3/	0.05	0.06	0.08	0.07
Total feed cost	17.56	16.65	21.79	21.08
Other --				
Feeder pigs	0.02	0.04	0.01	0.01
Veterinary and medicine	1.08	1.11	0.78	0.78
Bedding and litter	0.04	0.04	0.00	0.00
Marketing	0.57	0.59	0.63	0.63
Custom services	0.13	0.13	0.26	0.26
Fuel, lube, and electricity	1.01	1.30	1.46	1.84
Repairs	0.82	0.83	0.95	0.93
Other operating costs 4/	0.02	0.02	0.11	0.13
Interest on operating capital	0.50	0.60	0.61	0.74
Total, operating costs	21.75	21.31	26.60	26.40
Allocated overhead:				
Hired labor	2.10	2.06	5.16	5.38
Opportunity cost of unpaid labor	8.73	8.48	7.26	7.03
Capital recovery of machinery and equipment	11.27	11.00	14.78	15.49
Opportunity cost of land (rental rate)	0.11	0.11	0.11	0.11
Taxes and insurance	0.48	0.49	0.48	0.47
General farm overhead	0.99	0.93	3.25	3.70
Total, allocated overhead	23.68	23.07	31.04	32.18
Total costs listed	45.43	44.38	57.64	58.58
Value of production less total costs listed	-17.21	-5.07	-22.74	-9.63
Value of production less operating costs	6.47	18.00	8.30	22.55
Supporting information:				
Production arrangement (percent of production) 5/				
Independent	81	77	94	94
Under contract	19	23	6	6
Size of operation (head sold/removed) 5/				
Market hogs	835	884	1,404	1,665
Feeder pigs	39	40	19	19

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production. 3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

4/ Costs for odor control and fees, permits, licenses, and other regulatory costs.

5/ Developed from survey base year, 1998.

Source: Economic Research Service, USDA.

Appendix

Appendix table 23--Farrow-to-feeder pig production costs and returns per hundredweight gain, 1999-00

Item	United States		Eastern Uplands		Southern Seaboard	
	1999	2000	1999	2000	1999	2000
Gross value of production	Dollars per cwt gain ^{1/}					
Market hogs	1.33	1.97	0.95	1.33	3.34	4.70
Feeder pigs	82.77	122.29	79.61	116.72	83.92	122.26
Cull stock	2.17	3.26	4.31	6.55	2.37	3.37
Breeding stock	0.19	0.32	2.04	3.21	0.21	0.31
Inventory change	-4.04	-5.71	-0.68	-0.66	-0.21	-0.23
Other income ^{2/}	1.21	1.21	1.30	1.31	1.15	1.14
Total, gross value of production	83.63	123.34	87.53	128.46	90.78	131.55
Operating costs:						
Feed --						
Grain	2.02	1.83	4.40	4.02	0.05	0.05
Protein sources	1.04	0.95	0.68	0.70	0.20	0.23
Complete mixes	23.58	24.09	20.65	19.13	24.09	23.93
Other feed items ^{3/}	0.20	0.22	2.79	2.72	0.02	0.02
Total feed cost	26.84	27.09	28.52	26.57	24.36	24.23
Other --						
Feeder pigs	0.44	0.71	0.06	0.09	1.46	2.15
Veterinary and medicine	2.34	2.74	2.89	3.03	3.76	3.89
Bedding and litter	0.06	0.05	0.00	0.00	0.00	0.00
Marketing	3.50	3.69	3.35	3.50	5.98	6.14
Custom services	0.25	0.28	0.03	0.03	0.68	0.71
Fuel, lube, and electricity	3.06	3.96	4.61	5.95	2.32	3.01
Repairs	1.06	1.09	1.21	1.25	1.14	1.14
Other operating costs ^{4/}	0.03	0.04	0.05	0.06	0.03	0.03
Interest on operating capital	0.88	1.14	0.96	1.17	0.93	1.19
Total, operating costs	38.46	40.79	41.68	41.65	40.66	42.49
Allocated overhead:						
Hired labor	11.59	11.30	5.76	6.25	6.82	6.99
Opportunity cost of unpaid labor	7.88	7.80	21.09	21.35	4.62	4.59
Capital recovery of machinery and equipment	24.97	26.32	25.87	27.07	19.38	19.83
Opportunity cost of land (rental rate)	0.08	0.07	0.09	0.09	0.06	0.06
Taxes and insurance	0.91	0.95	1.51	1.59	0.78	0.80
General farm overhead	1.46	1.54	1.90	1.91	1.53	1.57
Total, allocated overhead	46.89	47.98	56.22	58.26	33.19	33.84
Total costs listed	85.35	88.77	97.90	99.91	73.85	76.33
Value of production less total costs listed	-1.72	34.57	-10.37	28.55	16.93	55.22
Value of production less operating costs	45.17	82.55	45.85	86.81	50.12	89.06
Supporting information:						
Production arrangement (percent of production) ^{5/}						
Independent	23	23	24	24	1	1
Under contract	77	77	76	76	99	99
Size of operation (head sold/removed) ^{5/}						
Market hogs	58	65	23	26	310	344
Feeder pigs	8,129	8,535	3,587	3,942	16,908	18,656

^{1/} Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. ^{2/} Value of manure production. ^{3/} Milk replacer, milk, milk by-products, antibiotics, and other medicated additives. ^{4/} Costs for odor control and fees, permits, licenses, and other regulatory costs. ^{5/} Developed from survey base year, 1998.

Source: Economic Research Service, USDA.

Appendix

Appendix table 24--Feeder pig-to-finish production costs and returns per hundredweight gain, 1999-00

Item	United States		Heartland	
	1999	2000	1999	2000
Gross value of production	Dollars per cwt gain 1/			
Market hogs	35.06	49.00	35.90	50.56
Feeder pigs	0.28	0.43	0.16	0.23
Cull stock	0.25	0.38	0.01	0.02
Breeding stock	0.25	0.40	0.01	0.02
Inventory change	1.10	1.92	0.21	0.86
Other income 2/	1.30	1.28	1.60	1.59
Total, gross value of production	38.24	53.41	37.89	53.28
Operating costs:				
Feed --				
Grain	3.11	3.15	4.93	5.05
Protein sources	2.10	2.30	3.35	3.84
Complete mixes	12.21	12.11	9.24	8.96
Other feed items 3/	0.05	0.06	0.07	0.08
Total feed cost	17.47	17.62	17.59	17.93
Other --				
Feeder pigs	20.61	30.23	21.88	32.35
Veterinary and medicine	0.43	0.45	0.50	0.53
Bedding and litter	0.01	0.01	0.02	0.02
Marketing	0.86	0.89	0.54	0.53
Custom services	0.40	0.42	0.34	0.37
Fuel, lube, and electricity	0.65	0.80	0.79	0.98
Repairs	0.37	0.37	0.42	0.42
Other operating costs 4/	0.02	0.03	0.03	0.03
Interest on operating capital	0.96	1.47	0.99	1.53
Total, operating costs	41.78	52.29	43.10	54.69
Allocated overhead:				
Hired labor	0.65	0.68	0.42	0.42
Opportunity cost of unpaid labor	2.53	2.46	3.49	3.43
Capital recovery of machinery and equipment	6.46	6.61	6.66	6.75
Opportunity cost of land (rental rate)	0.03	0.03	0.03	0.02
Taxes and insurance	0.32	0.33	0.38	0.39
General farm overhead	0.63	0.63	0.78	0.79
Total, allocated overhead	10.62	10.74	11.76	11.80
Total costs listed	52.40	63.03	54.86	66.49
Value of production less total costs listed	-14.16	-9.62	-16.97	-13.21
Value of production less operating costs	-3.54	1.12	-5.21	-1.41
Supporting information:				
Production arrangement (percent of production) 5/				
Independent	35	35	47	48
Under contract	65	65	53	52
Size of operation (head sold/removed) 5/				
Market hogs	3,042	3,337	2,190	2,351
Feeder pigs	42	49	13	13

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production.

3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives. 4/ Costs for odor control and fees, permits, licenses, and other regulatory costs. 5/ Developed from survey base year, 1998.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 24--Feeder pig-to-finish production costs and returns per hundredweight gain, 1999-00 -- continued

Item	Eastern Uplands		Southern Seaboard	
	1999	2000	1999	2000
Gross value of production	Dollars per cwt gain ^{1/}			
Market hogs	34.44	45.99	35.74	49.96
Feeder pigs	0.00	0.00	0.46	0.67
Cull stock	0.00	0.00	0.12	0.17
Breeding stock	0.00	0.00	0.05	0.07
Inventory change	-0.49	-1.06	2.24	3.13
Other income ^{2/}	1.02	1.02	0.91	0.90
Total, gross value of production	34.97	45.95	39.52	54.90
Operating costs:				
Feed --				
Grain	2.08	1.80	0.14	0.11
Protein sources	0.91	0.82	0.03	0.03
Complete mixes	13.55	13.14	17.25	17.10
Other feed items ^{3/}	0.00	0.00	0.00	0.00
Total feed cost	16.54	15.76	17.42	17.24
Other --				
Feeder pigs	14.50	20.95	18.78	27.36
Veterinary and medicine	0.57	0.59	0.32	0.33
Bedding and litter	0.00	0.00	0.00	0.00
Marketing	0.64	0.66	1.56	1.62
Custom services	0.03	0.03	0.69	0.71
Fuel, lube, and electricity	0.65	0.83	0.47	0.61
Repairs	0.51	0.51	0.29	0.30
Other operating costs ^{4/}	0.04	0.04	0.01	0.01
Interest on operating capital	0.79	1.14	0.93	1.39
Total, operating costs	34.27	40.51	40.47	49.57
Allocated overhead:				
Hired labor	0.56	0.55	0.59	0.60
Opportunity cost of unpaid labor	2.72	2.70	1.19	1.22
Capital recovery of machinery and equipment	6.09	6.24	5.23	5.37
Opportunity cost of land (rental rate)	0.06	0.05	0.03	0.03
Taxes and insurance	0.56	0.57	0.18	0.19
General farm overhead	0.45	0.45	0.28	0.29
Total, allocated overhead	10.44	10.56	7.50	7.70
Total costs listed	44.71	51.07	47.97	57.27
Value of production less total costs listed	-9.74	-5.12	-8.45	-2.37
Value of production less operating costs	0.70	5.44	-0.95	5.33
Supporting information:				
Production arrangement (percent of production) ^{5/}				
Independent	12	10	7	7
Under contract	88	90	93	93
Size of operation (head sold/removed) ^{5/}				
Market hogs	3,047	3,396	11,329	11,548
Feeder pigs	0	0	280	286

^{1/} Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. ^{2/} Value of manure production. ^{3/} Milk replacer, milk, milk by-products, antibiotics, and other medicated additives. ^{4/} Costs for odor control and fees, permits, licenses, and other regulatory costs. ^{5/} Developed from survey base year, 1998.

Source: Economic Research Service, USDA.

Appendix

Appendix table 25--Cow-calf production costs and returns per bred cow, 1999-2000

Item	United States		Heartland		Northern Great	
	1999	2000	1999	2000	1999	2000
Gross value of production:			Dollars			
Steer calves	138.06	162.56	160.38	191.23	143.94	167.21
Heifer calves	85.87	101.07	108.78	129.55	89.33	103.87
Yearling steers	91.79	101.45	33.79	37.75	109.87	118.68
Yearling heifers	39.16	43.21	10.30	11.43	31.86	34.18
Other cattle	71.34	76.97	62.60	66.87	86.67	94.05
Total gross value of production	432.26	491.31	380.28	441.36	468.45	525.01
Operating costs:						
Purchased cattle for backgrounding	59.76	66.62	22.43	25.64	34.41	38.15
Feed:						
Concentrates and other feed	23.87	24.06	24.11	24.76	18.03	18.19
Supplemental feed	14.51	15.06	31.30	30.65	31.34	33.16
Harvested forages	116.41	126.72	186.79	190.00	90.28	118.48
Cropland pasture	13.45	12.57	13.28	13.10	7.74	7.72
Private pasture	97.01	94.20	65.81	68.54	114.75	115.72
Public land	2.53	2.46	0.35	0.37	7.16	6.93
Total feed costs	267.78	275.07	321.64	327.42	269.30	300.20
Other:						
Veterinary and medicine	22.68	22.78	40.91	41.64	15.70	16.37
Bedding and litter	0.39	0.38	1.23	1.22	0.22	0.23
Marketing	6.04	6.05	4.43	4.53	6.78	7.02
Custom operations	31.92	32.12	42.57	43.42	31.68	32.92
Fuel, lube, and electricity	19.10	19.08	16.20	16.19	16.40	16.39
Repairs	26.09	26.14	30.79	31.43	23.30	24.07
Interest on operating inputs	11.15	13.70	12.46	15.31	10.71	13.17
Total operating costs	444.91	461.94	492.66	506.80	408.50	448.52
Allocated overhead:						
Hired labor	3.24	3.41	0.52	0.54	0.68	0.71
Opportunity cost of unpaid labor	236.11	242.54	194.62	200.12	319.50	325.93
Capital recovery cost of machinery and equipment	121.34	128.61	239.26	254.91	73.16	82.26
Opportunity cost of land	2.56	2.63	5.22	5.42	3.37	3.42
Taxes and insurance	32.29	33.12	42.84	43.78	32.49	33.42
General farm overhead	56.94	58.35	78.99	80.63	51.79	53.31
Total allocated overhead	452.48	468.66	561.45	585.40	480.99	499.05
Total costs listed	897.39	930.60	1,054.11	1,092.20	889.49	947.57
Value of production less total costs listed	-465.13	-439.29	-673.83	-650.84	-421.04	-422.56
Value of production less operating costs	-12.65	29.37	-112.38	-65.44	59.95	76.49
Supporting information:						
Bred cows (head) 1/	83	83	51	51	174	174
Calves weaned (head) 1/	71	71	45	45	162	162
Calving season (percent of ranches) 1/						
One	49	49	65	65	95	95
Two	13	13	9	9	4	4
None set	38	38	26	26	1	1
Cost of homegrown harvested forages (percent of total cost) 1/ 2/	84	84	94	94	89	89
Cost of pasture owned:						
Private pasture (percent of total cost) 1/ 3/	72	72	72	72	61	61
Cropland pasture (percent of total cost) 1/ 3/	80	80	76	76	84	84

1/ Developed from survey base year, 1996. 2/ Percent of total harvested forage cost from charge on homegrown forages. 3/ Source: Economic Research Service, USDA.

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Appendix

Appendix table 25--Cow-calf production costs and returns per bred cow, 1999-2000 -- continued

Item	Prairie Gateway		Eastern Uplands		Fruitful Rim	
	1999	2000	1999	2000	1999	2000
Gross value of production:			Dollars			
Steer calves	147.82	174.91	120.51	143.33	76.96	89.73
Heifer calves	80.04	94.61	96.37	114.53	52.91	61.83
Yearling steers	127.36	140.06	48.94	57.28	52.23	57.92
Yearling heifers	66.43	73.19	21.61	25.24	20.68	22.91
Other cattle	73.16	79.40	56.87	61.82	59.07	63.17
Total gross value of production	501.57	568.81	351.17	408.89	266.54	300.11
Operating costs:						
Purchased cattle for backgrounding	100.51	110.39	37.33	43.82	48.52	55.64
Feed:						
Concentrates and other feed	31.05	31.00	22.26	22.71	19.95	20.33
Supplemental feed	5.05	5.69	11.82	10.91	3.07	3.27
Harvested forages	90.69	102.23	220.12	202.94	80.10	78.19
Cropland pasture	26.21	23.73	3.81	3.75	3.46	3.40
Private pasture	84.27	77.46	64.89	66.71	152.76	146.63
Public land	1.26	1.19	0.38	0.40	1.63	1.63
Total feed costs	238.53	241.30	323.28	307.42	260.97	253.45
Other:						
Veterinary and medicine	19.19	19.05	16.02	15.67	36.32	35.69
Bedding and litter	0.03	0.03	0.56	0.53	0.44	0.42
Marketing	6.76	6.64	6.87	6.69	4.69	4.55
Custom operations	24.03	23.73	26.83	26.15	56.93	56.30
Fuel, lube, and electricity	22.31	22.31	15.65	15.64	22.24	22.17
Repairs	31.31	30.81	25.65	25.04	19.12	18.73
Interest on operating inputs	11.24	13.82	10.54	12.92	11.29	13.85
Total operating costs	453.91	468.08	462.73	453.88	460.52	460.80
Allocated overhead:						
Hired labor	2.46	2.62	2.91	3.08	16.00	16.91
Opportunity cost of unpaid labor	181.70	186.59	147.98	153.37	270.41	277.63
Capital recovery cost of machinery and equipment	120.39	130.05	166.26	166.78	72.62	72.35
Opportunity cost of land	1.72	1.75	2.25	2.32	1.30	1.39
Taxes and insurance	29.49	30.30	31.39	32.15	30.44	31.17
General farm overhead	57.83	59.34	50.67	51.99	50.91	51.97
Total allocated overhead	393.59	410.65	401.46	409.69	441.68	451.42
Total costs listed	847.50	878.73	864.19	863.57	902.20	912.22
Value of production less total costs listed	-345.93	-309.92	-513.02	-454.68	-635.66	-612.11
Value of production less operating costs	47.66	100.73	-111.56	-44.99	-193.98	-160.69
Supporting information:						
Bred cows (head) 1/	78	78	50	50	138	138
Calves weaned (head) 1/	66	66	38	38	113	113
Calving season (percent of ranches) 1/						
One	42	42	19	19	46	46
Two	14	14	23	23	3	3
None set	44	44	58	58	51	51
Cost of homegrown harvested forages (percent of total cost) 1/ 2/	81	81	87	87	55	55
Cost of pasture owned:						
Private pasture (percent of total cost) 1/ 3/	66	66	87	87	80	80
Cropland pasture (percent of total cost) 1/ 3/	77	77	96	96	83	83

1/ Developed from survey base year, 1996. 2/ Percent of total harvested forage cost from charge on homegrown forages.

Source: Economic Research Service, USDA.

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Appendix

Appendix table 25--Cow-calf production costs and returns per bred cow, 1999-2000 --

Item	Basin and Range		Mississippi Portal	
	1999	2000	1999	2000
Gross value of production:	Dollars			
Steer calves	150.62	173.83	122.23	141.31
Heifer calves	93.73	108.07	104.71	121.05
Yearling steers	127.68	145.35	67.15	78.37
Yearling heifers	54.71	61.59	16.96	19.80
Other cattle	79.48	82.64	55.25	62.47
Total gross value of production	512.05	577.56	372.03	428.48
Operating costs:				
Purchased cattle for backgrounding	85.41	97.70	36.37	42.45
Feed:				
Concentrates and other feed	8.68	8.71	19.79	20.28
Supplemental feed	2.25	2.33	13.30	12.82
Harvested forages	105.38	124.23	157.65	151.70
Cropland pasture	6.04	5.73	3.53	3.88
Private pasture	125.38	119.53	54.51	59.83
Public land	3.40	3.18	0.00	0.00
Total feed costs	251.13	263.71	248.78	248.51
Other:				
Veterinary and medicine	16.28	16.85	19.91	19.05
Bedding and litter	0.70	0.70	0.01	0.01
Marketing	5.83	6.08	5.73	5.48
Custom operations	24.79	25.59	20.79	19.90
Fuel, lube, and electricity	18.74	18.65	27.07	27.07
Repairs	17.19	18.03	22.39	21.43
Interest on operating inputs	11.32	13.91	7.96	9.79
Total operating costs	431.39	461.22	389.01	393.69
Allocated overhead:				
Hired labor	1.41	1.52	0.38	0.39
Opportunity cost of unpaid labor	387.46	401.10	520.10	537.57
Capital recovery cost of machinery and equipment	64.89	63.09	154.47	151.58
Opportunity cost of land	1.91	1.95	2.50	2.42
Taxes and insurance	29.95	30.70	25.42	26.07
General farm overhead	51.80	52.89	51.29	52.56
Total allocated overhead	537.42	551.25	754.16	770.59
Total costs listed	968.81	1,012.47	1,143.17	1,164.28
Value of production less total costs listed	-456.76	-434.91	-771.14	-735.80
Value of production less operating costs	80.66	116.34	-16.98	34.79
Supporting information:				
Bred cows (head) 1/	170	170	53	53
Calves weaned (head) 1/	152	152	44	44
Calving season (percent of ranches) 1/				
One	81	81	22	22
Two	6	6	14	14
None set	13	13	64	64
Cost of homegrown harvested forages (percent of total cost) 1/ 2/	69	69	82	82
Cost of pasture owned:				
Private pasture (percent of total cost) 1/ 3/	60	60	87	87
Cropland pasture (percent of total cost) 1/ 3/	81	81	75	75

1/ Developed from survey base year, 1996. 2/ Percent of total harvested forage cost from charge on homegrown forages. 3/ Percent of total pasture cost from charge on owned pasture.

Source: Economic Research Service, USDA.

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